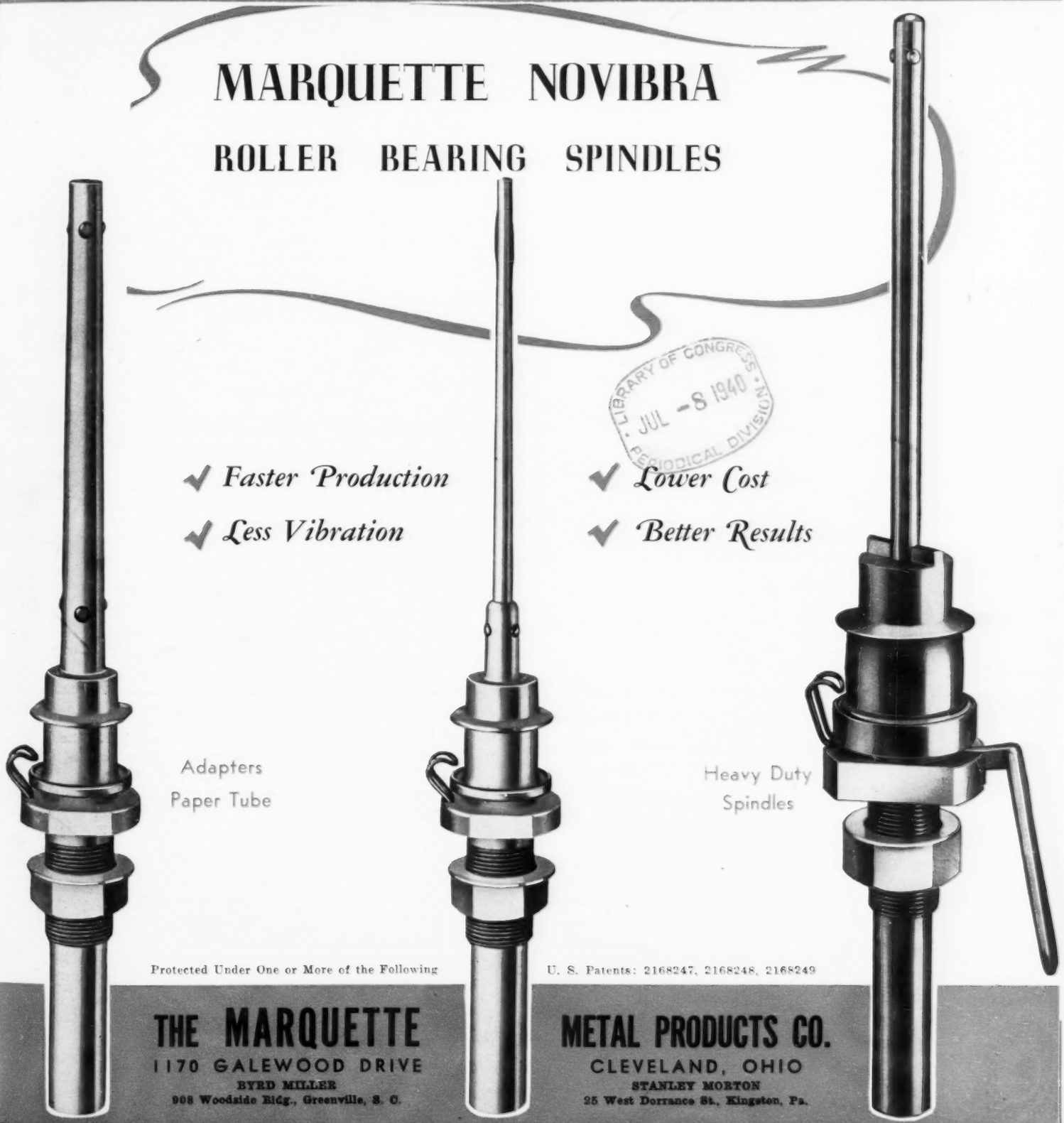
COTTON

JUNE, SERVING THE 1940

Textile Industries

MARQUETTE NOVIBRA

ROLLER BEARING SPINDLES



✓ *Faster Production*

✓ *Less Vibration*

✓ *Lower Cost*

✓ *Better Results*

Adapters
Paper Tube

Heavy Duty
Spindles

Protected Under One or More of the Following U. S. Patents: 2168247, 2168248, 2168249

THE MARQUETTE METAL PRODUCTS CO.

1170 GALEWOOD DRIVE
CLEVELAND, OHIO

BYRD MILLER
908 Woodside Bldg., Greenville, S. C.

STANLEY MORTON
25 West Dorrance St., Kingston, Pa.

LIBRARY OF CONGRESS
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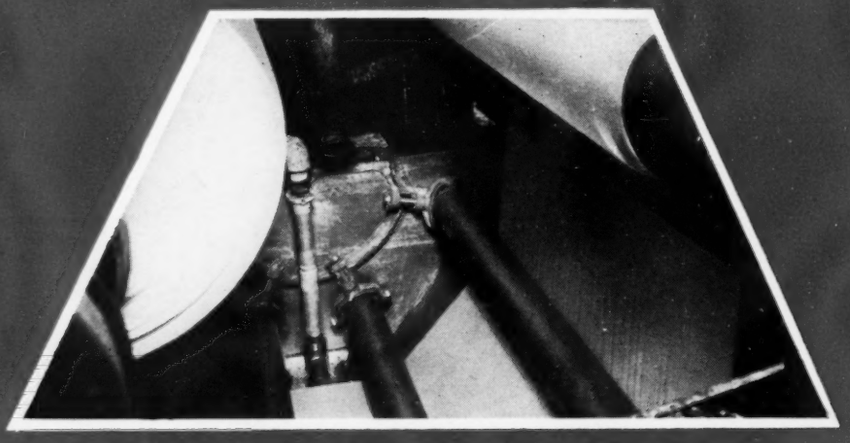
PERIODICAL DIVISION

LININGS *and* ROLLS *and* BEARINGS *that resist* CORROSION *by* SALT



Close-up interior view of one of the dye jigs shown below. Linings, immersion rolls, cast roll brackets, roller bearings, heating coils and other accessories are all made of Monel. As a result, these dye jigs are still in excellent condition after 4 to 8 years' service.

Dye jigs with Monel parts still in excellent condition after 4 to 8 years' service

Note this battery of dye jigs. Into them go cotton, silks and rayons for immersion in vat, direct, sulphur and all acetate colors; for peroxide bleaching, and also for boiling off. • Yet, after periods of service ranging from 4 to 8 years, every one of these dye jigs is still in use and in excellent condition. The reason? Linings, immersion rolls, cast roll brackets, roller bearings, heating coils and accessories are all made of Monel. • Among the corrosives handled by these machines, one is especially harmful. And it's a corrosive that *your* plant is undoubtedly handling, for it is used in many dyeing processes. Its name? *Common salt!* • Salt corrodes even metals that resist most everything else. But Monel is a different matter. You won't find corrosion pitting due to salt in dye-house equipment made of *that* metal. For Monel, highly resistant to corrosion by dyes and dilute bleaches, also withstands the attack of salt. • Proof? For one thing... the widespread use of Monel for salt refinery equipment. For another... the excellent service given by Monel dyeing equipment in hundreds of textile plants. • When ordering new equipment or repairing old, specify Monel... the metal that combats corrosion by salt. Write for further information on this long-lived metal. Address:

THE INTERNATIONAL NICKEL COMPANY, INC.
67 Wall Street New York, N. Y.

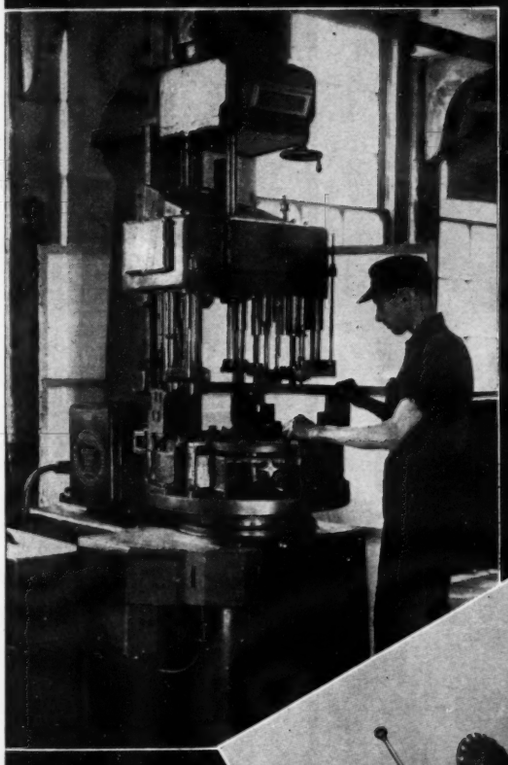
MONEL

"Monel" is a registered trade-mark of The International Nickel Co., Inc., which is applied to a nickel alloy containing approximately two-thirds nickel and one-third copper.

COTTON is published monthly by W. R. C. Smith Publishing Company, Dalton and Atlanta, Ga., U. S. A.
Subscription Rates, United States and Possessions, $1.00 for one year; $2.00 for three years; Canada, $1.50 per year; Foreign Countries, $2.00 per year.
Entered as second-class matter at the Post office, Dalton, Ga., under the Act of March 3, 1879.

Jigs for Draper Loom Parts

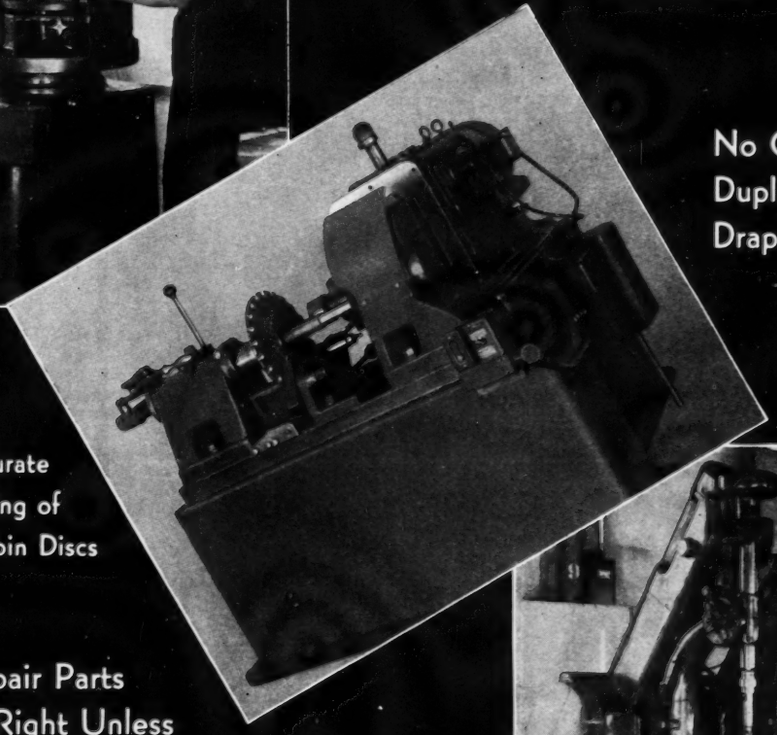
Hopper Stand Jig



Used to Finish Parts for New Looms
Used to Finish Parts for Repairs

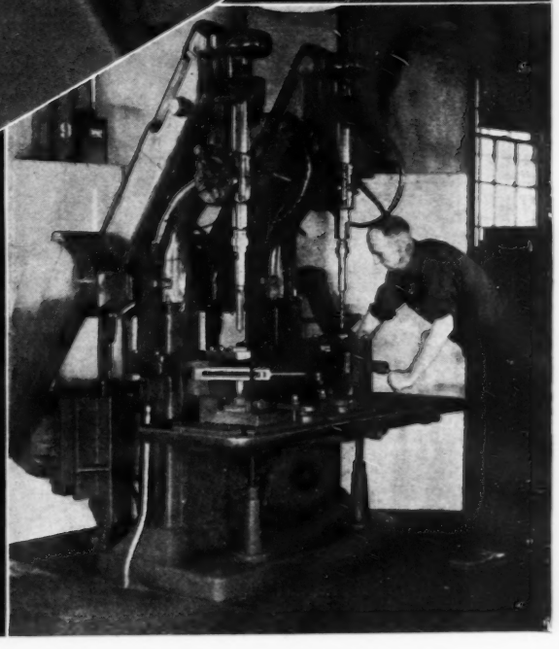
Almost Every Part on Draper Looms Must be Accurately Made in Some Important Particular
Our Expensive Jigs Give You Accurate Parts on New Looms
The Same Jigs Give You Equally Accurate Loom Repair Parts

No One Can Duplicate Draper Jigs



Accurate Milling of Bobbin Discs

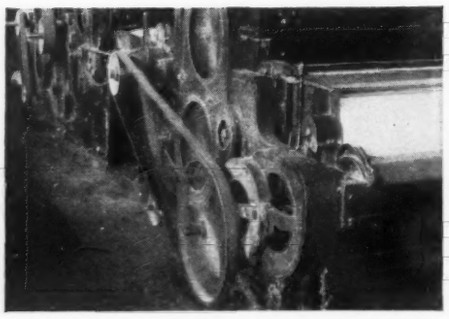
Jig for Lay Swords



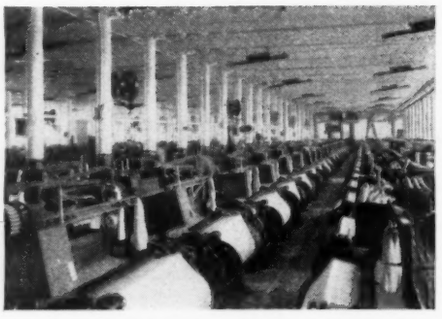
Loom Repair Parts
Are Not Right Unless
They Fit Like the Parts
That Came on the Looms

Draper Corporation
Atlanta Hopedale Spartanburg

What USERS Like About
Fibre Conditioning

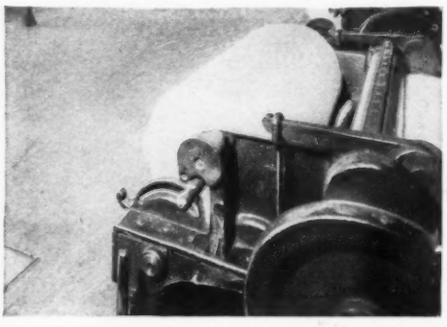


CLEANER AIR TO BREATHE... Texspray cleans the air of 70% of the fly in the card room alone! It also brings the static nuisance under control and produces yarn easier to work.

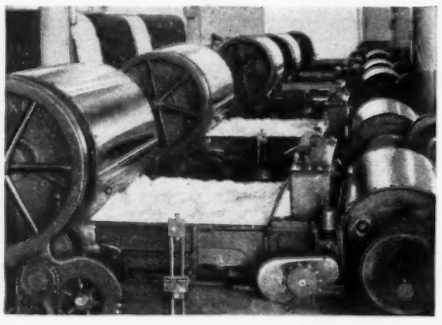


EASIER PROCESSING... Superintendents of 5 big mills report that Texspray conditioning pays. They get easier processing throughout their mills.

FEWER BROKEN ENDS... The brittleness of stock long in storage is largely overcome. Fibres are more flexible and easier to draft, whether running cotton, straight rayon, or a mix.



CLEANING EXPENSE REDUCED 30%... says one of the country's best known mills—"We find that this system gives us a cleaner mill and makes for healthier working conditions."



COMPLETELY NEW! This 32-page booklet describes the benefits of fibre conditioning and how you can achieve them. Yours for the asking.

Texaco Dealers invite you to tune in The Texaco Star Theatre — a full hour of all-star entertainment — Every Wednesday Night — Columbia Network — 9:00 E.D.T., 8:00 E.S.T., 8:00 C.D.T., 7:00 C.S.T., 6:00 M.S.T., 5:00 P.S.T.

THE TEXACO TEXSPRAY SYSTEM of Fibre Conditioning is available only to mills located in the Eastern and Southern textile centers of the United States. For complete information, you are invited to write to:

The Texas Company, 135 East 42nd Street, New York, N. Y.

Better Loom Lubes

Texaco's outstanding contribution to more effective and less costly loom lubrication. Stazon reduces spoilage by resisting dripping and spattering.

Stazon—

stays on!

TEXACO STAZON

TEXACO Texspray System

WE MAKE IT CLEAR

Warner Textile Grade Caustic Soda has made it clear to many prominent mercerizers, bleachers, dyers and finishers that paying a price premium for caustic soda is an unnecessary production expense.

Warner Textile Grade Caustic Soda has no turbidity. Its salt content is reduced to a percentage that has no deleterious effect. It has an iron content as low, or lower, than any caustic soda made by any method.

Why not order a car of Warner Textile Grade Caustic Soda for prompt shipment from our conveniently nearby plant at South Charleston, West Virginia?

WARNER TEXTILE GRADE CAUSTIC SODA

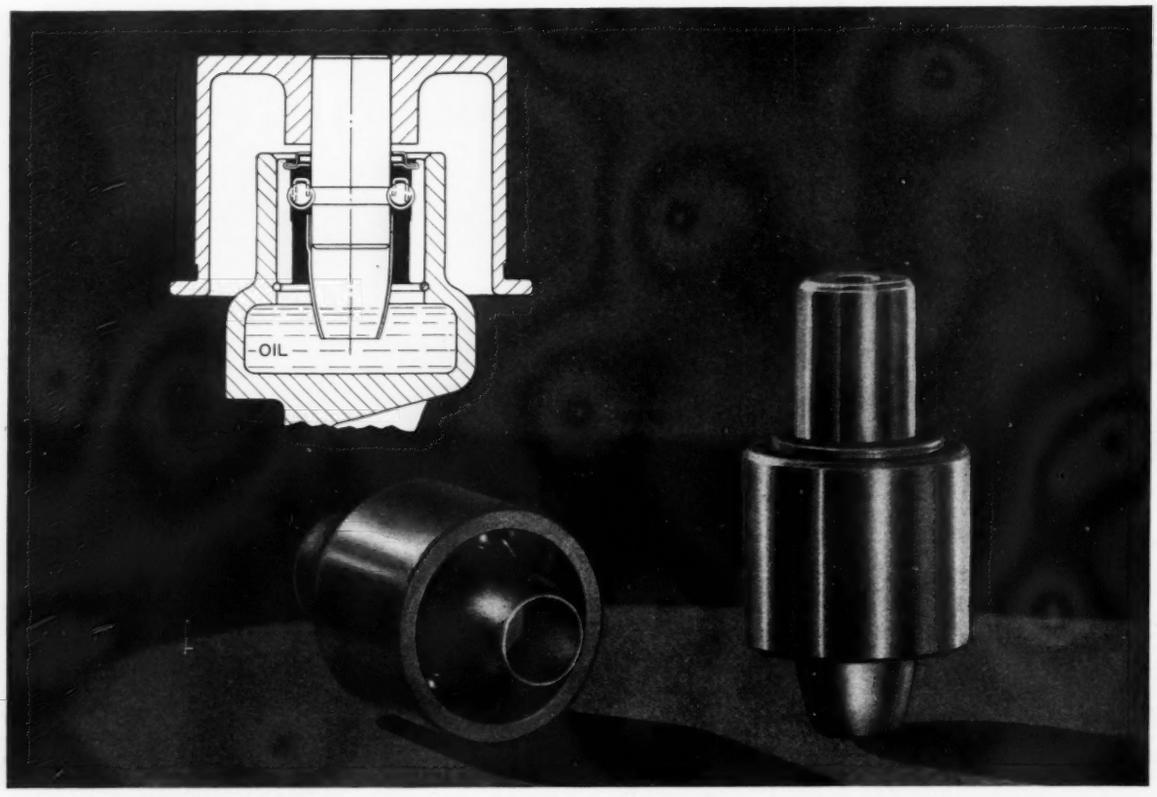
OTHER WARNER CHEMICALS

Tetra Sodium Pyrophosphate
Phosphoric Acid
Sodium Phosphates
Bromine
Liquid Caustic Potash
Carbon Tetrachloride
Chlorine, Liquid
Trichlorethylene
Perchlorethylene
Carbon Bisulfide
Sodium Sulfide
Epsom Salt
Hydrogen Peroxide

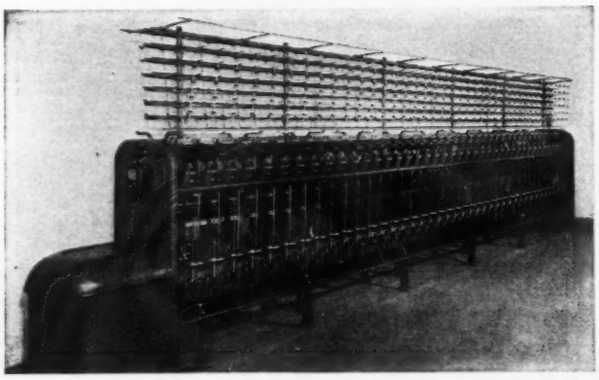
CHEMICAL WARNER COMPANY

DIVISION OF
WESTVACO CHLORINE PRODUCTS CORPORATION

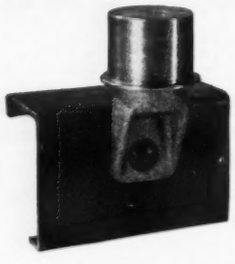
CHRYSLER BUILDING, NEW YORK, N. Y.



New Bearing Has Own Oiling System



† **New Atwood 5 B** machine designed for greater efficiency, speed and economy of doubling and twisting Silk and Rayon yarns. Is equipped with New Departure Vertical Tension Pulley Bearings.



Atwood Tension Pulley showing modern, clean cut simplicity of mounting. →

THIS "new departure" by New Departure is a Vertical Tension Pulley bearing now being used in some of the latest Textile Machines.

Unique in design, this bearing not only provides a vertical stub shaft for the pulley, but contains its own oil circulating system for speeds of 3500 to 15,000 r.p.m. By this carefully developed system a fine spray or mist is continually directed at the balls and races.

Being enclosed with friction-free all-metal seal, this New Departure protects its oil reservoir from dirt or lint and does not require relubrication oftener than once every two years. It requires no locknuts, screws or other parts for mounting and may be removed instantly for re-oiling and as quickly replaced.

New Departure, Division of General Motors, Bristol, Conn.

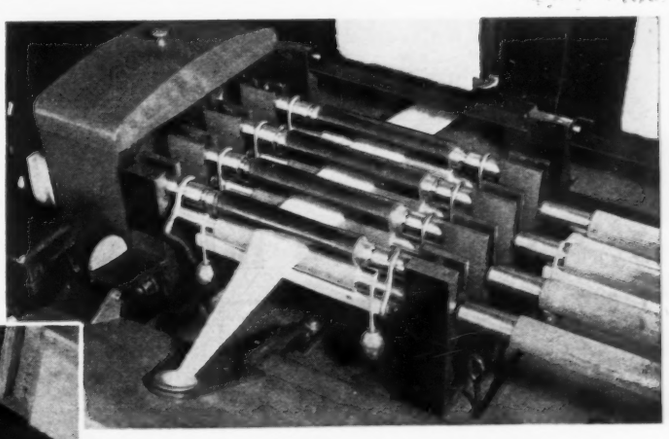
NEW DEPARTURE

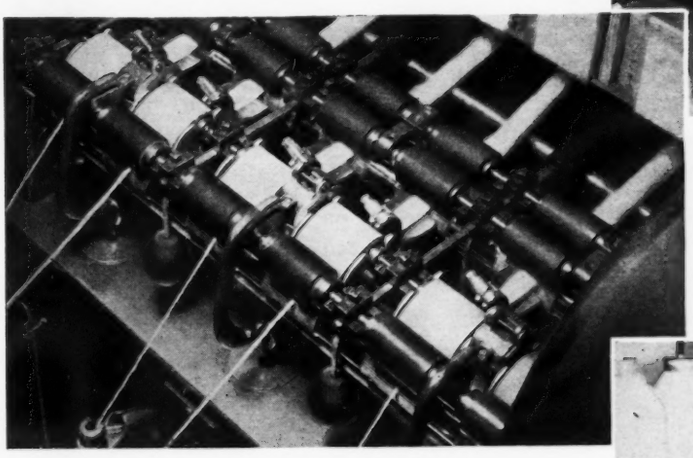
THE FORGED STEEL BEARING

2889

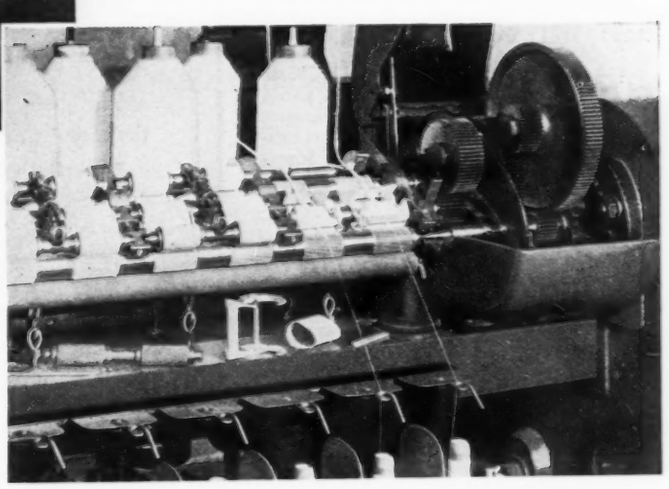
for PROCESSING MIXED STAPLES ON COTTON EQUIPMENT *Install*

THE NEW WHITIN
Drawing Frame with special wide roll stands, and larger diameter cushion rolls, for better control of fibers and evener sliver.



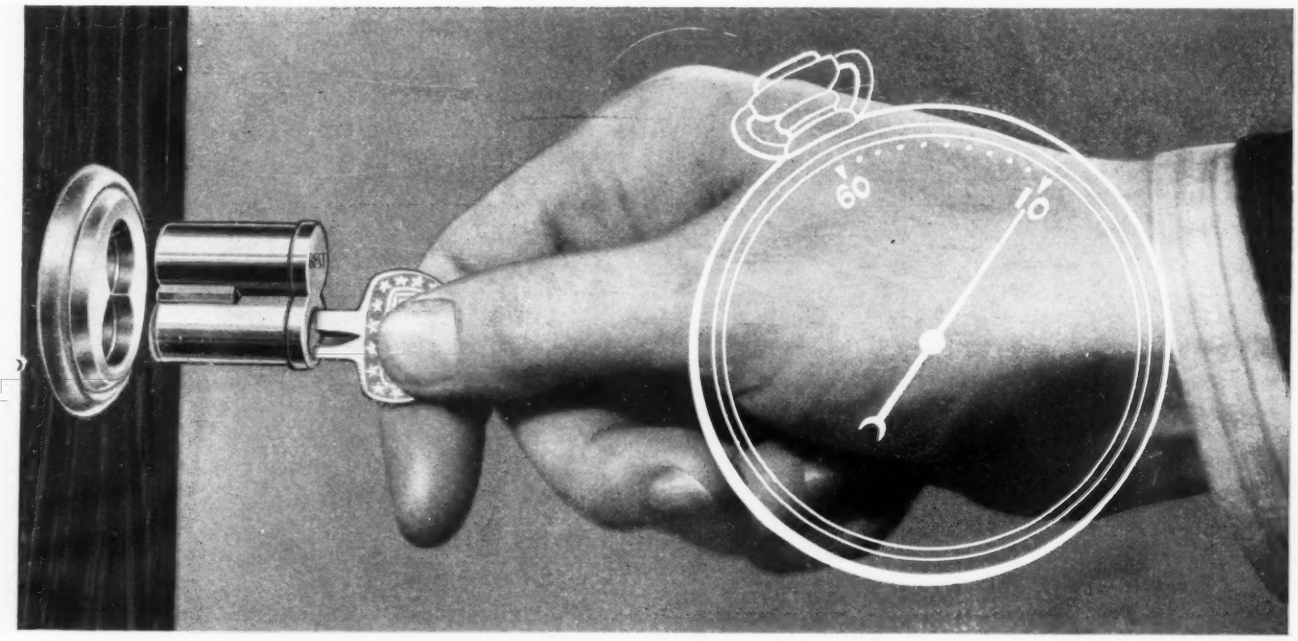


The apron carrier principle utilized in Super-Draft Roving, vital to best results. Only Super-Draft is capable of properly drafting mixed fibers of varying lengths.

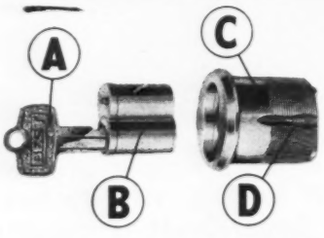


Modern high speed, wide gauge Spinning Frames, incorporating the specially designed Whitin Long Draft System for maximum drafts. Full control of fibers within the high draft field, possible only with double carrier aprons.

WHITIN MACHINE WORKS
WHITINSVILLE, MASSACHUSETTS, U. S. A.
CHARLOTTE, N. C. ATLANTA, GA.



Picture of a mill officer changing a lock *in ten seconds*



Every BEST LOCK is equipped with the exclusive BEST INTERCHANGEABLE CORE

There is a size or type of BEST LOCK or LATCH for every use . . . on mill gates, supply rooms, shipping rooms, tool houses, oil houses, offices, desks, drawers and cabinets. And every one has the BEST Interchangeable Core which is instantly interchangeable with any other BEST lock core on your property.

Your private control key (A) removes the Core (B) from its housing (C) and replaces it with another. A slight turn of the key and the core slips out but it is impossible to remove it in any other way. The safety set screw (D) which holds lock in place is deep inside the lock housing and cannot be tampered with.

FITS PADLOCKS, TOO

BEST Interchangeable Cores not only fit locks in fixed housings but can be inserted in BEST padlocks, too. This increases the flexibility of your locking system. Many cotton mills and other industrial plants enjoy the positive protection, certain security and flexibility that only BEST Locking Systems afford.

How to cut costs of lock servicing and replacement . . . and keep constant control of all mill property

Danger threatens! It may be caused by one lost or stolen key . . . or by problems that threaten your entire property. To quickly bar unauthorized intruders by changing *old-fashioned* locks is practically impossible.

BUT . . . if your plant is equipped with BEST UNIVERSAL LOCKS . . . the only locks with the exclusive, patented BEST *Interchangeable Core* . . . security is certain! Changing a lock is the work of an instant.

The above picture illustrates how. Your control key instantly removes the core (which contains the locking mechanism) from the lock, replaces it with another core of different combination. All keys under suspicion are useless at once. In ten seconds . . . you have a *new lock's security without a new lock's expense!* And authority is kept *right where you want it!*

The average mill spends plenty on lock upkeep and replacement, but with BEST LOCKS you cut these costs because you don't buy new locks or waste time on the old ones. Simply replace one lock core with another. Then the removed core is recombinated for use elsewhere.

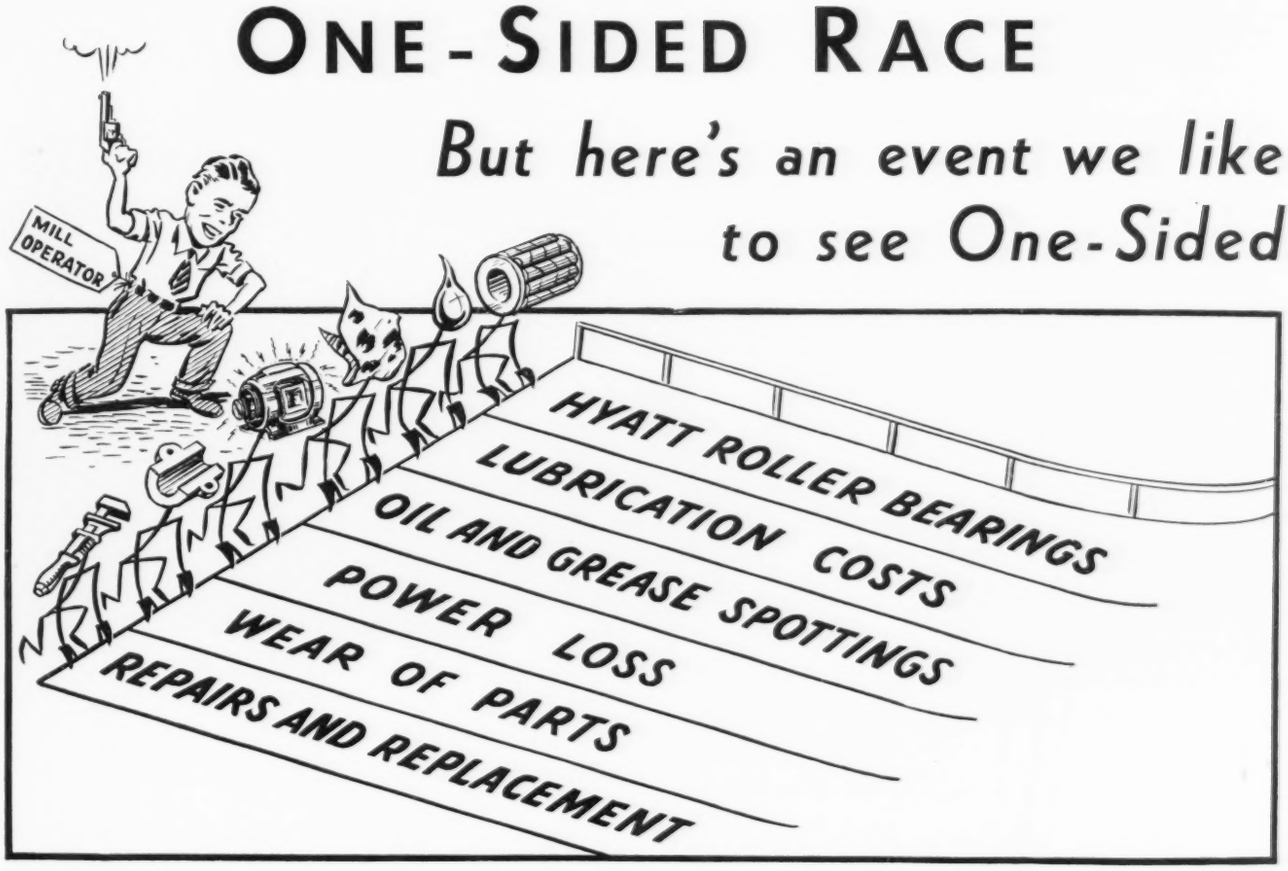
Your mill can be BEST-equipped without changing present lock hardware. You can start in a small way, with a few locks, and gradually build up a complete, flexible BEST master-keying system to protect your entire properties. A trained BEST LOCK engineer is near to advise and help you.

☆ ***Write direct to us for the complete BEST story and our illustrated Preview Catalog***

BEST UNIVERSAL LOCK COMPANY, INC.
730 EAST WASHINGTON STREET, INDIANAPOLIS, INDIANA
REPRESENTATIVES IN ALL LEADING CITIES

ONE-SIDED RACE

But here's an event we like to see One-Sided

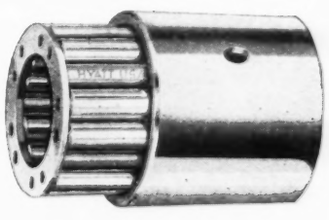


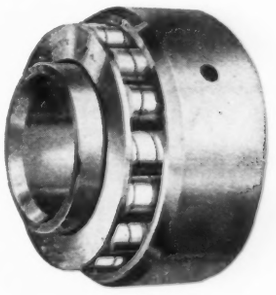
Be sure to enter HYATT, Mister Mill Man, before you start this marathon. You will see machine operating costs run ragged by these superior, precision roller bearings.

Hyatt has the pole position, will keep the inside track and come in the winner by several laps, breasting the tape with increased production and higher quality cloth and yarn.

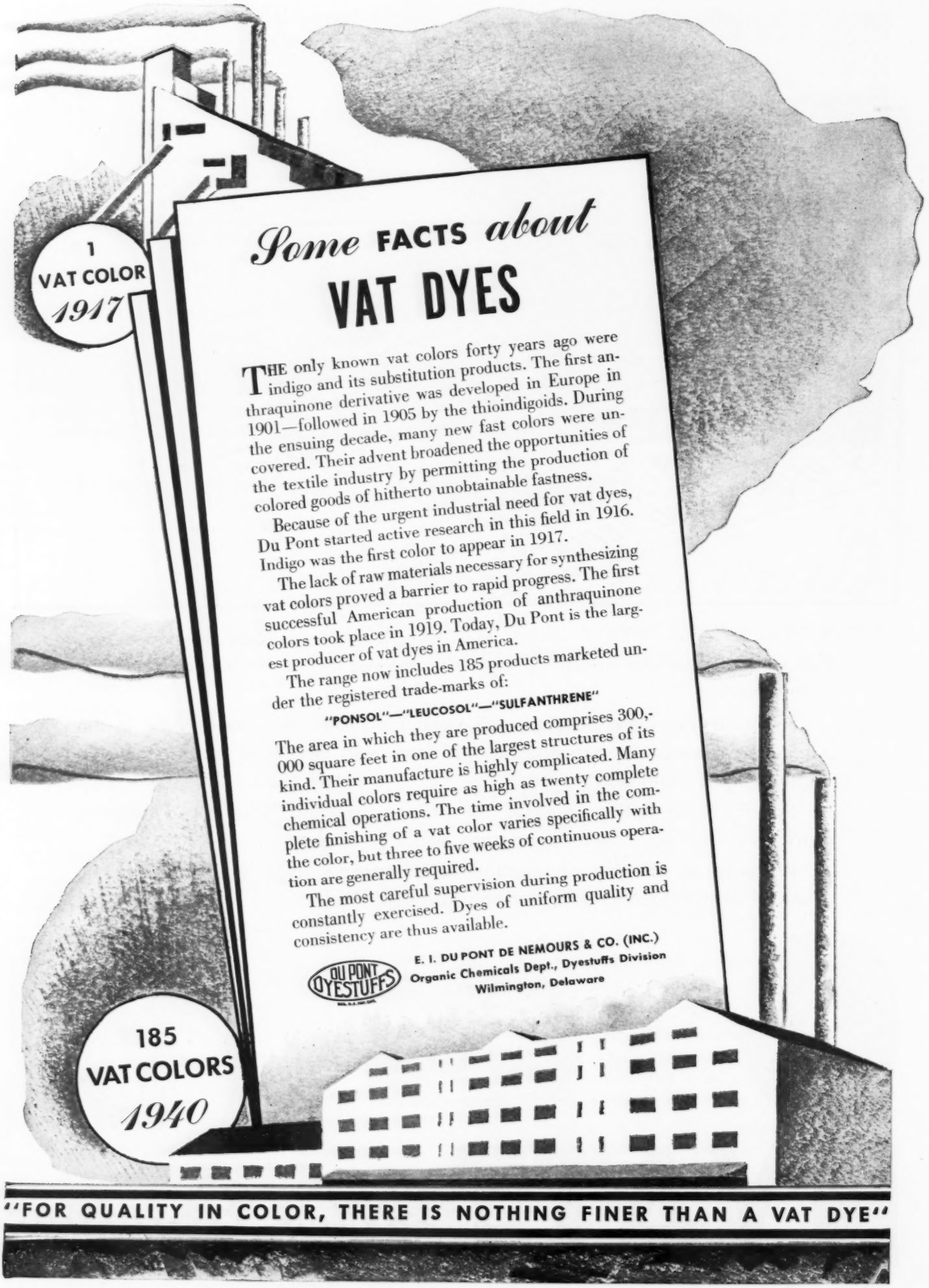
Specify Hyatt Roller Bearings for pickers, spinning, looms and finishing machinery—all your machinery—and win.

Write to us for any application data desired. Hyatt Bearings Division, General Motors Sales Corporation, Harrison, N. J.

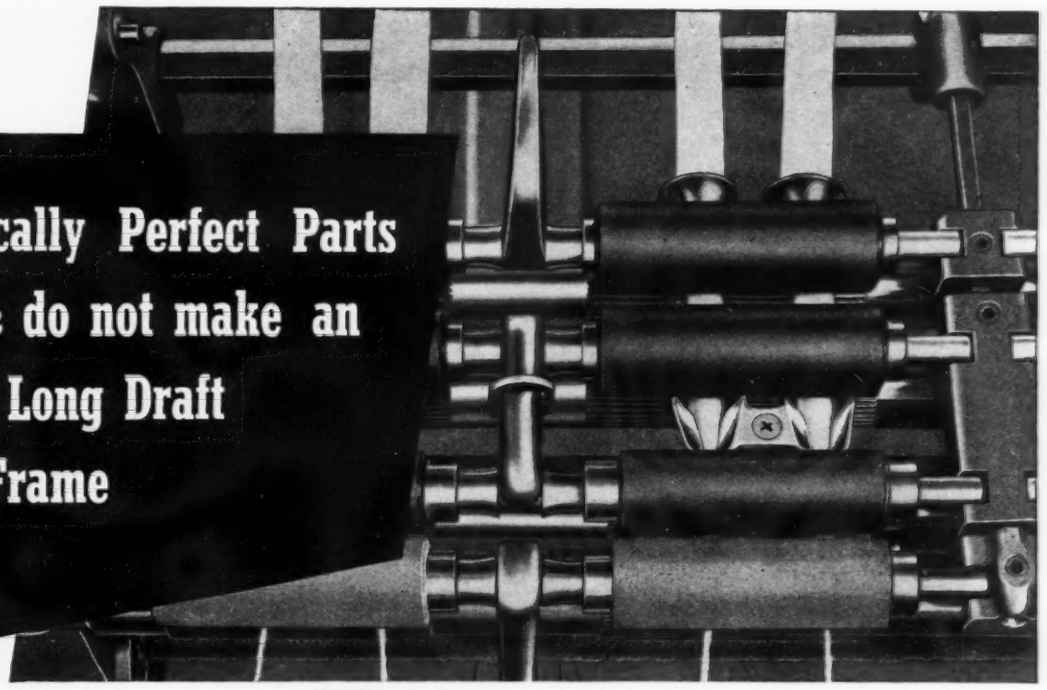




HYATT *Roller Bearings*


1
VAT COLOR
1917
Some FACTS about
VAT DYES
THE only known vat colors forty years ago were indigo and its substitution products. The first anthraquinone derivative was developed in Europe in 1901—followed in 1905 by the thioindigoids. During the ensuing decade, many new fast colors were uncovered. Their advent broadened the opportunities of the textile industry by permitting the production of colored goods of hitherto unobtainable fastness.
Because of the urgent industrial need for vat dyes, Du Pont started active research in this field in 1916. Indigo was the first color to appear in 1917.
The lack of raw materials necessary for synthesizing vat colors proved a barrier to rapid progress. The first successful American production of anthraquinone colors took place in 1919. Today, Du Pont is the largest producer of vat dyes in America.
The range now includes 185 products marketed under the registered trade-marks of:
"PONSOL"—"LEUCOSOL"—"SULFANTHRENE"
The area in which they are produced comprises 300,000 square feet in one of the largest structures of its kind. Their manufacture is highly complicated. Many individual colors require as high as twenty complete chemical operations. The time involved in the complete finishing of a vat color varies specifically with the color, but three to five weeks of continuous operation are generally required.
The most careful supervision during production is constantly exercised. Dyes of uniform quality and consistency are thus available.
DU PONT DYESTUFFS
E. I. DU PONT DE NEMOURS & CO. (INC.)
Organic Chemicals Dept., Dyestuffs Division
Wilmington, Delaware
185
VAT COLORS
1940
"FOR QUALITY IN COLOR, THERE IS NOTHING FINER THAN A VAT DYE"

Mechanically Perfect Parts *Alone* do not make an efficient Long Draft Roving Frame



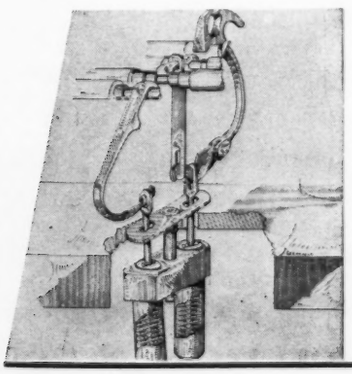
TOP VIEW of the Model J-3. Note how the Forming Trumpet gathers the wide ribbon of fibres, and transforms it into a uniform compact tubular shape just before it reaches the final drafting zone.

The successful Long Draft Roving Frame must also have continuously effective fibre control in every drafting zone . . . and a bobbin building assembly which does not create linear irregularities because of uneven or variable tensions.

SACO-LOWELL Drafting Assemblies in addition to being precision built are designed to secure smooth even drafting with the fibres under control through the various drafting zones.

The new Model J-3 Controlled Draft Roving Frame with its fibre gripping rolls, spring pressure assembly, forming trumpet and new clearer system produces a continuous, smooth, even strand of roving. And because of its ability to efficiently draft as high as 25 or 30 with 1″ to 1⅛″ staple, the Model J-3 makes single stage roving both practical and highly profitable. With this economically operated cost-reducing unit available, there is no reason for any mill to continue to operate and maintain expensive, out-moded, multi-staged roving equipment.

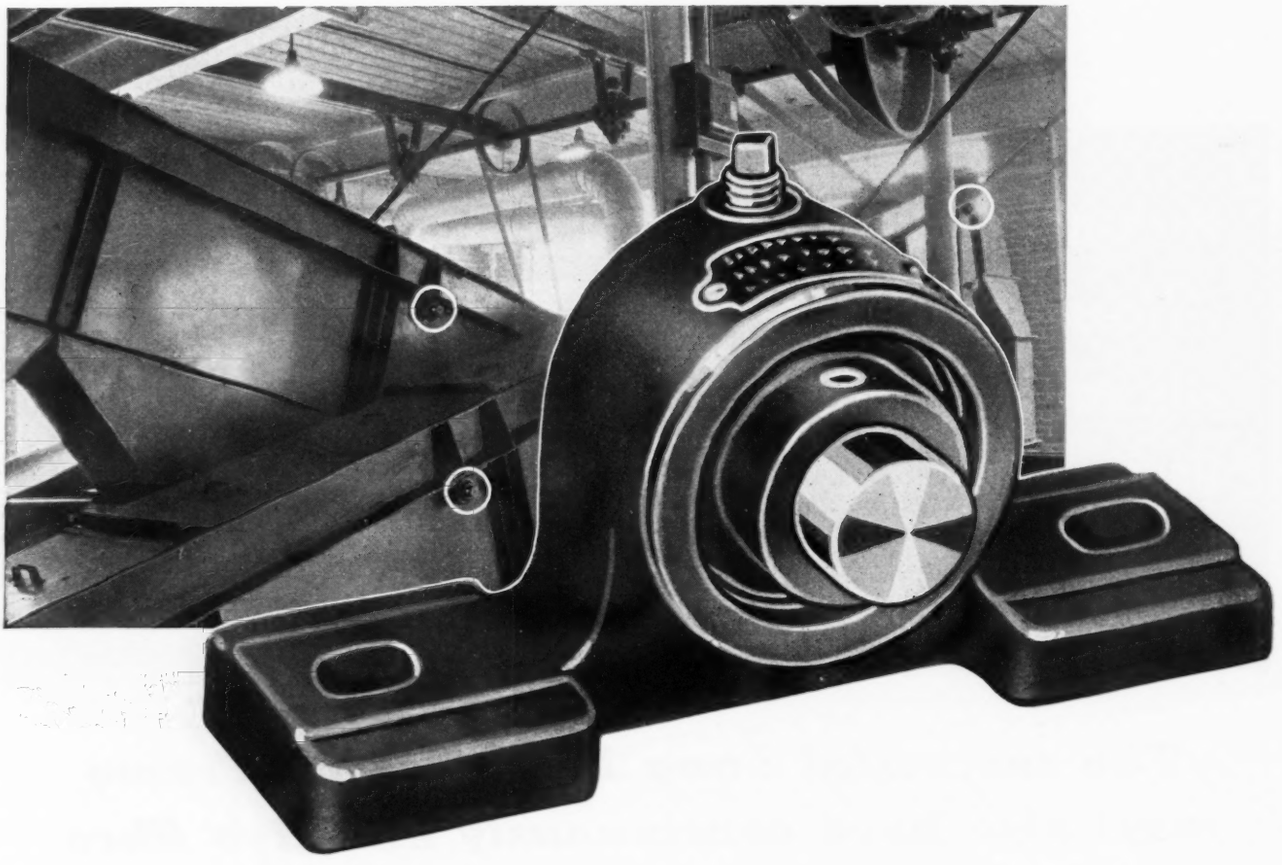
Our engineers would like to show you what a profitable investment the Model J-3 frame can be in your mill.



THE SPRING PRESSURE ASSEMBLY, showing the pressure springs in their casings, the beams, levers and stirrups of the pressure distributing system.

SACO-LOWELL SHOPS

Charlotte, N. C. Greenville, S. C. Atlanta, Ga. 60 Batterymarch Street, Boston, Mass.



LOW POWER CONSUMPTION *Characterizes* FAFNIR-EQUIPPED LUMMUS GYRATOR

Due partly to the use of friction-free Fafnir Ball Bearing Pillow Blocks on important shafts, this Lummus Gyrator, for efficient opening, cleaning, blending and distributing, requires a maximum of only one-third horsepower for each ten-foot section! And its automatic operation is made more efficient by the fact that these Fafnir Units require lubrication only a few times a year, instead of the countless manual oilings that would be required by plain bearings.

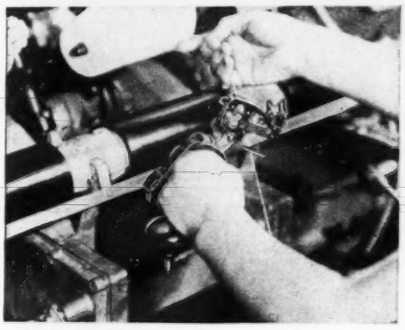
On many large textile machines like this, Fafnir Textile Ball Bearing Units reduce starting torque and operating friction, permitting lighter motors and controls to be used. On many others, their lubricant-retaining features cut the fire hazards of dripping oil. Everywhere these specialized Fafnir Ball Bearing Units are installed, they vastly reduce friction and maintenance, step up profits. Write today for the catalog of Fafnir Textile Bearings. The Fafnir Bearing Company, New Britain, Conn. . . . Atlanta . . . Birmingham . . . Boston . . . Charlotte . . . Dallas.

FAFNIR *Ball Bearings*

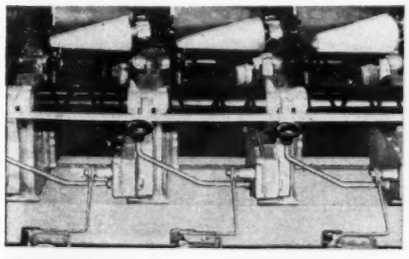
THE BALANCED LINE . . MOST COMPLETE IN AMERICA

OPERATORS DO BETTER WORK WITH THE ROTO-CONER*

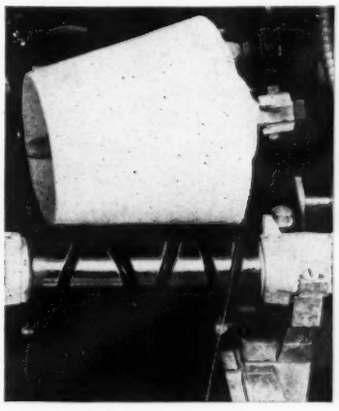
Wherever the Roto-Coner* has been installed, operators find their work easier. Parts they must reach are conveniently located... nerve-racking clatter of cams and guides is eliminated . . . the machine is easy to keep clean.



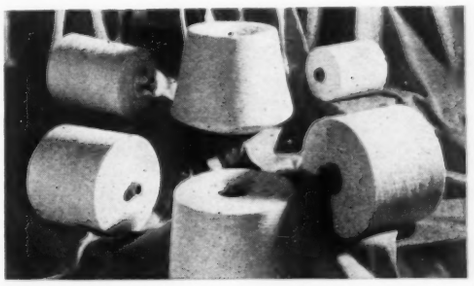
Operators must press the starting handle thousands of times a day. On the Roto-Coner*, a slight touch on the rubber starting handle releases the cone holder arm without necessity of compressing heavy springs.



The streamlined design and simplified mechanism eliminate places for lint to collect. Cleaning is easier and required less frequently. Moving parts are covered and sealed.



Yarn is quickly reversed at ends of the rotating traverse about 900 times a minute. Silent operation is due to the absence of cams and reciprocating parts.



Greater ease of operating the Roto-Coner* is reflected in better quality packages. Other reasons why knitters, dyers, spinners and weavers prefer these packages are:

Freedom from roll-cut yarn; the one-piece rotating traverse eliminates the slip drum.

Freedom from chafed yarn; the traverse revolves in same direction yarn is traveling.

Freedom from slubs, due to better inspection with Precision Slub Catchers.

*Trademark

ROTO-CONER LEESONA Reg. U. S. Pat. Off.

THE ROTATING TRAVERSE WINDER

UNIVERSAL WINDING COMPANY P. O. BOX 1605 **PROVIDENCE, R. I.**

BOSTON PHILADELPHIA UTICA CHARLOTTE ATLANTA

All wires seat square, flat and firmly into the Foundation.

All wires are parallel.

All wires are even in length.

All wires are spaced uniformly.

Microphotograph is 5 times actual size.

TUFFERIZED Card Clothing
(U. S. PATENT NO. 2,174,17-)
An Exclusive Howard Bros. Patented-Precision-Process

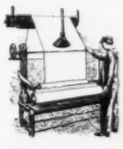
TRADE MARK
TUFFER
REG. U.S. PAT. OFF.
CARD CLOTHING

HOWARD BROS. MFG. CO.
HOME OFFICE AND FACTORY: WORCESTER, MASS.
Southern Plants: Atlanta, Ga., Gastonia, N. C. *Branch Offices:* Philadelphia, Dallas
Canadian Agents: Colwool Accessories, Ltd., Toronto 2, Canada

Products: Card Clothing for Woolen, Worsted, Cotton, Asbestos, and Silk Cards—Napper Clothing, Brush Clothing, Strickles, Emery Fillets. Top Flats Recovered and extra sets loaned at all plants—Lickerins and Garnett Cylinders from 4 to 30 inches and Metallic Card Breasts Rewired at Southern Plant—Midgley Patented Hand Stripping Cards, Howard's Special Hand Stripping Cards and Inserted-Eye and Regular Wire Heddles.

WASTE IS NO SECRET HERE

BUT HIDDEN WASTE

HERE 

WENT UNDETECTED UNTIL...

A textile mill, after experiencing mediocre results in lubricating tentering frames, changed to Tide Water Textile Oils. Here's what the superintendent said about the results: "We found that Tide Water Non-Fluid Textile Oils are the solution to our difficult problem of obtaining proper lubrication in a warm place. Ordinary oils run from the tentering clips onto the edge of the silk as they pass along the frame." » » » He continues, concerning other uses for Tycol Oils and Greases, "When we want maximum production, Tide Water Textile Oils help – not hamper us. They have proved to be the oils that we can depend on and we are well satisfied with them." » » » Satisfaction is yours for any lubrication need with Tycol. If you are interested in banishing hidden wastes which curtail production schedules, call in a Tide Water engineer; he will help you obtain maximum economies with "engineered lubrication."

Regional Offices: Boston, Philadelphia, Pittsburgh, Charlotte, N. C.

TIDE WATER ASSOCIATED OIL COMPANY

TIDE WATER DIVISION, 17 BATTERY PLACE

New York, N. Y.

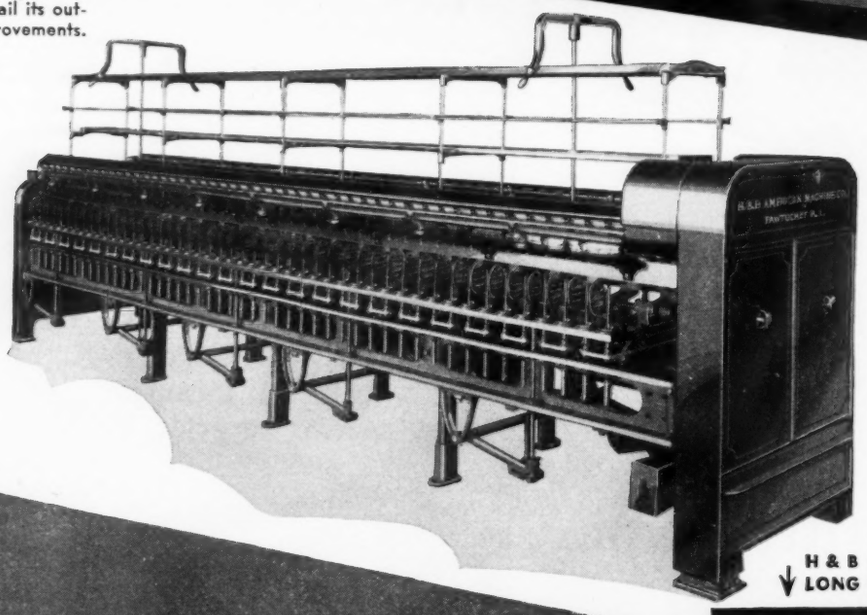
INDUSTRIAL TYCOL OILS-GREASES

TIDE WATER INDUSTRIAL LUBRICANTS

THERE IS A COMPLETE LINE OF TYCOL LUBRICANTS SCIENTIFICALLY ENGINEERED FOR EVERY INDUSTRIAL USE

H & B LARGE PACKAGE SPINNING FRAME WITH 4-ROLL LONG DRAFT

★ We illustrate our new model spinning frame herewith and upon request will be glad to explain in detail its outstanding improvements.



H & B 4-ROLL LONG DRAFT SYSTEM

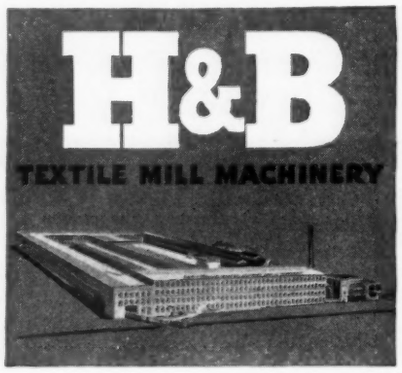
HELPS MILL INCREASE LOOM PRODUCTION 4 TO 5%

SIMPLICITY THE SECRET OF EFFICIENCY

Last year an Alabama Cotton Mill installed 36 of our New Model large package warp frames equipped with 4-Roll Long Draft and changed over an equal number of filling frames to the same system of Long Draft. In addition to the usual savings effected in the card room, the stoppage was materially reduced and weaving production increased from 4 to 5%.

The installation of the large package spinning frames reduced the number of knots in the warp 50% and produced a stronger yarn which made possible higher loom speeds.

The modernization of this mill is an outstanding example of what substantial returns can be secured from a comparatively small investment.



WRITE US FOR DETAILS

H&B AMERICAN MACHINE COMPANY

PLANT AT PAWTUCKET, RHODE ISLAND

BOSTON OFFICE: 161 Devonshire St.; ATLANTA OFFICE: 815 Citizens & Southern National Bank Bldg.; CHARLOTTE OFFICE: 1201-3 Johnston Building
EXPORT DEPARTMENT: United States Machinery Co. 115 Broad St., New York, N. Y.

The Right Starches... in the Right Places!

As specialty manufacturers of many years experience, we not only have the Starches you need, but the technical men who can tell you where these fit into your specific requirements.

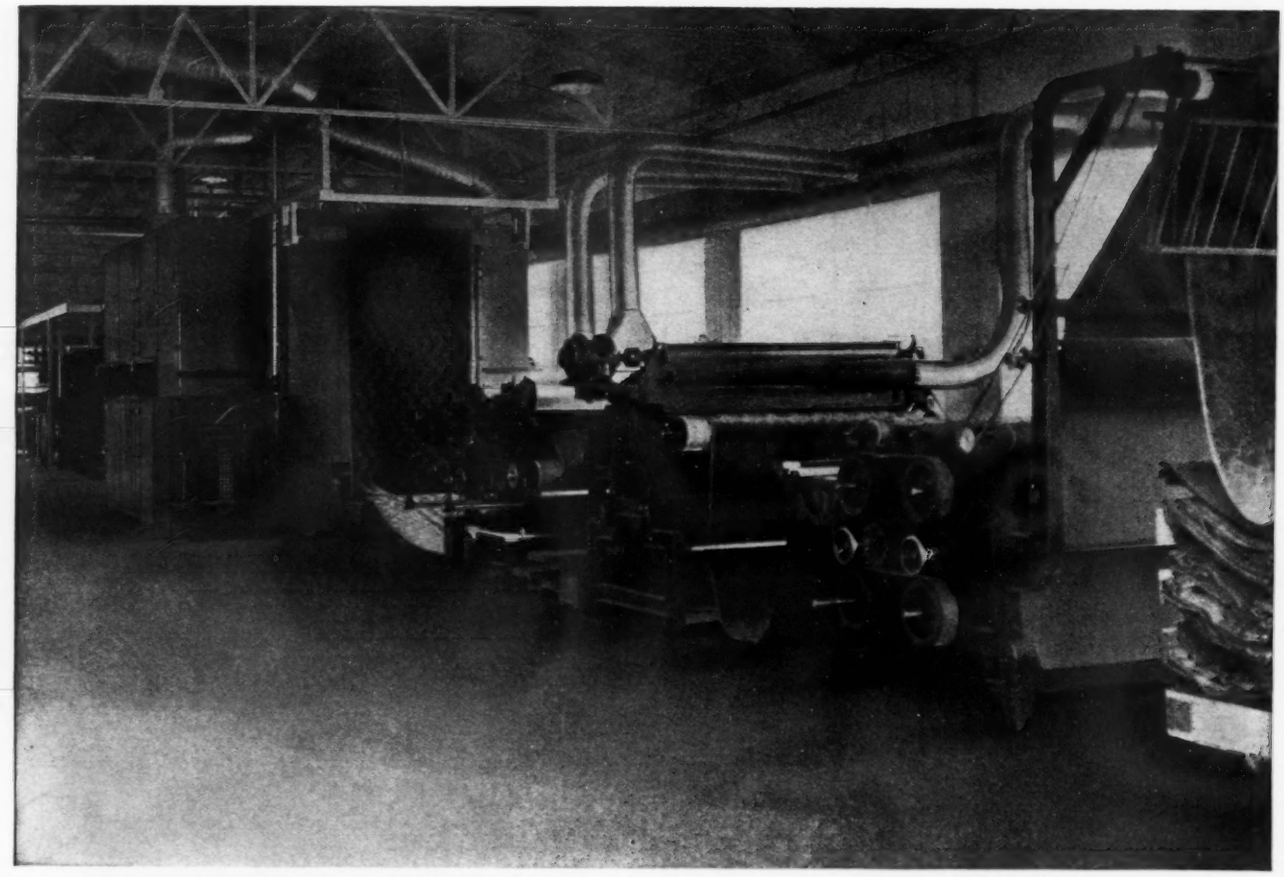
We manufacture Starches and Starch Derivatives for every textile operation:

Corn Starches
Tapioca and Sago Conversion Products
Thin-Boiling Starches
Dextrines
Chlorinated Starches
Gums
Special Products for Spun Rayon and Filament Rayon Warp Sizing

Our Textile Chemists can help you obtain the results you want---in warp sizing, printing, and finishing.

NATIONAL STARCH PRODUCTS INC.

820 GREENWICH STREET, NEW YORK



THE NEWEST DEVELOPMENTS IN *continuous* WET AND DRY FINISHING OF PLUSH

As designed by Hunter engineers and executives of Eagle Dyeing and Finishing Company at Mt. Holly, New Jersey.

The illustration on this page indicates what can be accomplished when competent machinery engineers and progressive mill management set out to accomplish a new era in wet and dry finishing of plush and pile fabrics. In this range, with the exception of the piece dyeing operation, the finishing operation is completely continuous.

The installation is most compact and requires a minimum of labor.

Most important, cost concepts for each yard of finished fabric, all of which were figured before the machinery was put in place, are now being reached within a small fraction of a cent.

The services of Hunter engineers are likewise available to you at no cost for consultation and advice. Simply write

JAMES HUNTER MACHINE COMPANY

SINCE 1847 NORTH ADAMS, MASSACHUSETTS

Southern Representatives
CAROLINA SPECIALTY COMPANY
Charlotte, North Carolina

Western Representative
MR. E. G. PAULES
343 Bendix Building
Los Angeles, California

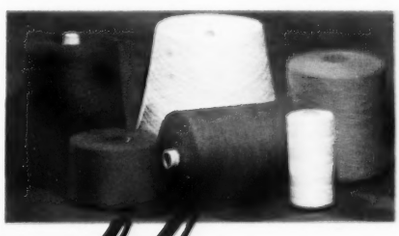
YARN DYED HOSIERY

OUR CONTRIBUTION TO ITS SUCCESS

DURING the last decade hosiery for men and boys has been elevated from the staple product rut to its rightful place as style merchandise and thereby all concerned have profited.

Franklin Process has played an important part in this evolution. Cooperating closely with leading hosiery manufacturers, we have developed special shades for the purpose,—commercially fast and yet adaptable to a given price range. The brightness and evenness of these shades, also important factors, are attributable to our unique method of spring tube dyeing.

Being the oldest, the largest and the best equipped package dyers in the country, we can probably simplify your colored yarn problems, — cotton, spun rayon or worsted.



FRANKLIN PROCESS *Natural Yarns, Colored Yarns, Glazed Yarns, Custom Dyeing.* Providence, Philadelphia, Greenville, Chattanooga • New York Representative, 40 Worth St. • Chicago Representative, 100 W. Monroe St.

WE ALSO DYE YARNS FOR
dresses • chenille fabrics • shirts • pajamas • underwear • handkerchiefs • curtains draperies • upholstery fabrics • terry cloth narrow fabrics • braids • elastic fabrics wire covering • knit goods

franklin process

★ LARGEST PACKAGE DYERS IN THE WORLD

NEW BEAUTY FOR COTTON, VISCOSE and ACETATE FABRICS

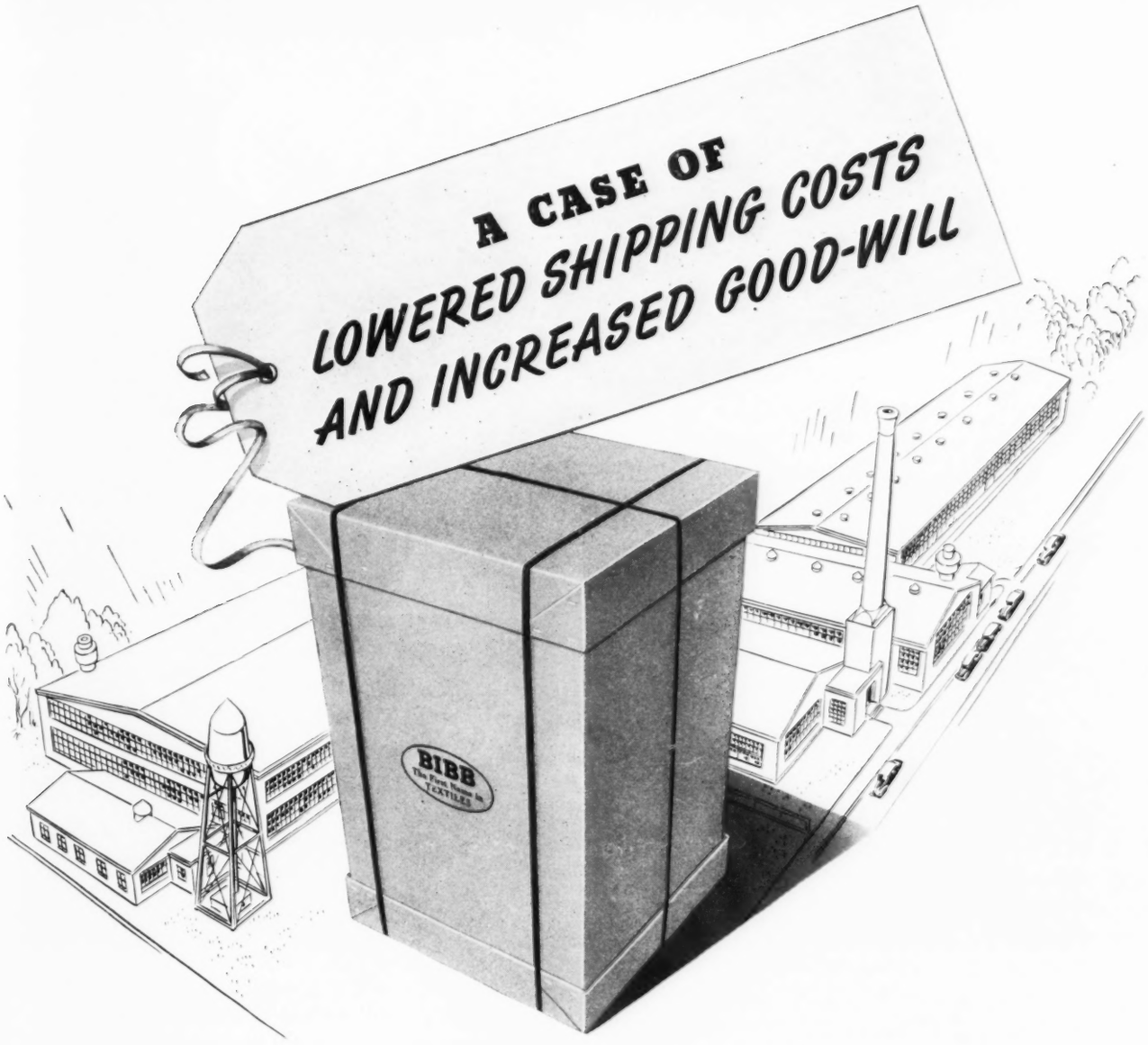
There's a richer, softer, fuller hand in today's fine fabrics.. Mill men have found out about PARAMINE. They know that to specify PARAMINE is to assure a highly desirable finish which will not change the shade or develop rancidity or objectionable odors. ★ And mill executives are pleased to find that PARAMINE gives an extra-mellow softness and added sales value without increasing, and often lowering finishing costs.

Gratifying reports are constantly being received from new customers concerning their success with PARAMINE. A demonstration or a test of PARAMINE in your plant probably will add your name to the growing list of our satisfied customers. May we serve you?

ARKANSAS
CO·INC·
NEWARK NEW JERSEY

P A R A M I N E

REG. U. S. PAT. OFF.



...And leading textile manufacturers are proving it right in their own shipping rooms!

Many said, "You can't reduce *our* shipping costs...they're at rock-bottom now!"

...But after trying Gaylord lighter, tougher fibreboard textile cases...checking weight tickets...transit damages...handling time...they found they'd saved thousands of dollars, compared to costs of ordinary boxes.

And the famous Gaylord "Extra Margin of Safety" that withstands inside pressure and outside punishment, is really an "Extra Margin of Profit," too...because it delivers your goods in the best of condition, building customer good-will and helping make sales.

Every Gaylord corrugated or solid fibre shipping box is designed by highly skilled packaging specialists and made to meet individual requirements...for single trip service, or for double or triple reshipment. Whatever your goods or your shipping problem, our packaging experts can do a real job for you! Just contact your nearest Gaylord office. No obligation.

GAYLORD CONTAINER CORPORATION

General Offices: SAINT LOUIS

New York • Chicago • San Francisco • Atlanta • New Orleans • Jersey City • Seattle • Indianapolis • Houston
Los Angeles • Minneapolis • Dallas • Jacksonville • Columbus • Fort Worth • Detroit • Tampa • Cincinnati
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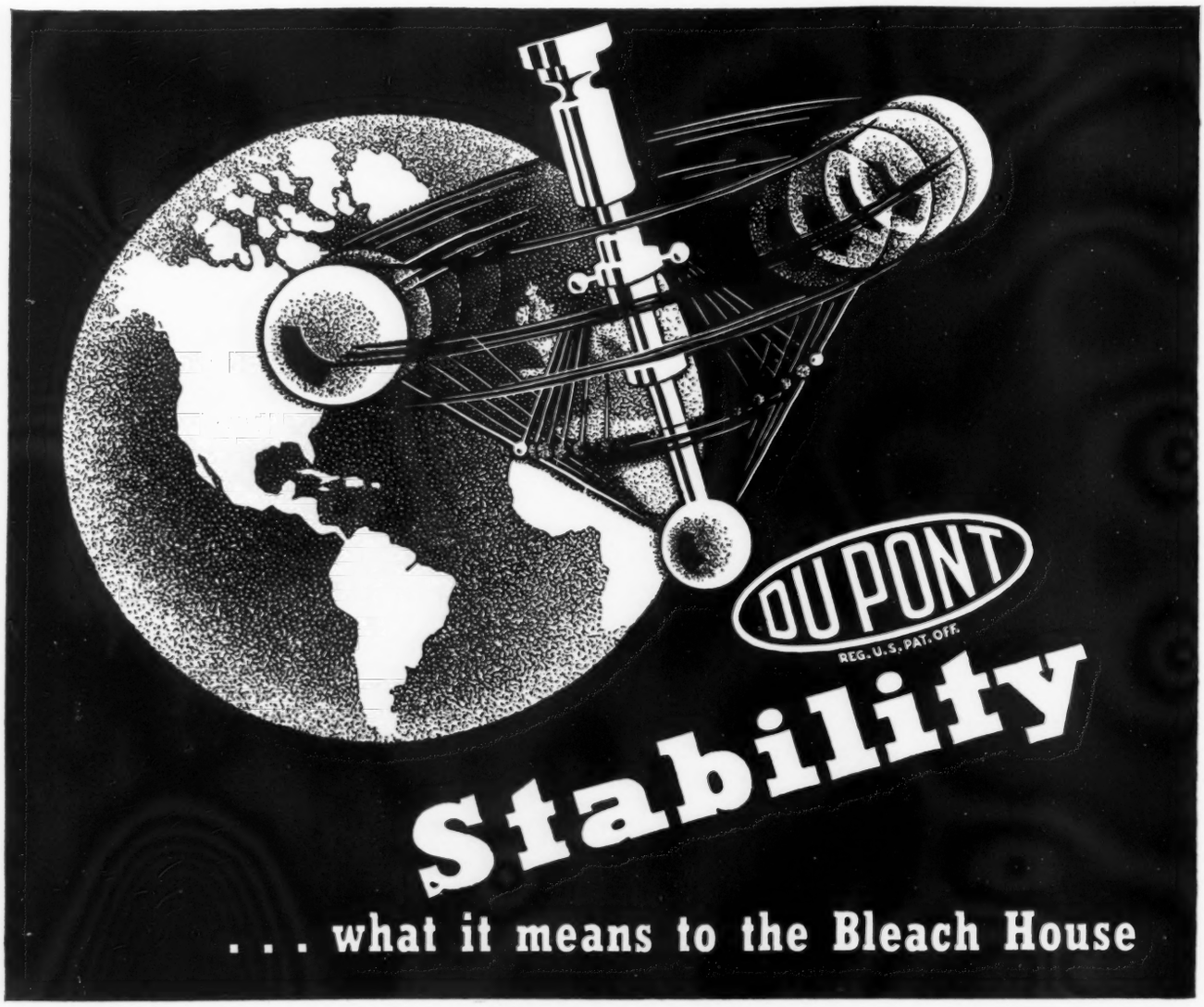
Bogalusa • Weslaco • Greensboro

Gaylord Boxes

CORRUGATED AND SOLID FIBRE

Also Gaylord Folding Cartons...Grocery Bags and Sacks...Kraft and Specialties



DU PONT
REG. U. S. PAT. OFF.
PEROXIDES
ALBONE*
Du Pont Hydrogen Peroxide
100 vol. Electrolytic
DFF† SOLOZONE*
(Du Pont Sodium Peroxide,
dustless and free flowing)
SODIUM
PERBORATE
*Reg. U. S. Pat. Off.
†Trade Mark

DU PONT stability means a dependable domestic source for your peroxides—not one, but *three* scientifically manufactured products from which to select the right bleach . . . experienced advice and technical assistance in this application . . . applied research to develop new and improved methods and processes for the efficient, economical use of these chemicals.

The industry has profited from du Pont Stability. The seasoned experience of 44 continuous years of peroxide manufacture . . . the accumulation of knowledge through research and practice . . . the cooperation of practical bleaching specialists for solution of every day and unusual problems . . . have helped bleachers to improve their products, their methods, their costs—to meet not only immediate demands but also the ultimate needs of the consumer.

Visit the du Pont Wonder World of Chemistry Exhibits at the New York World's Fair and on the Boardwalk at Atlantic City

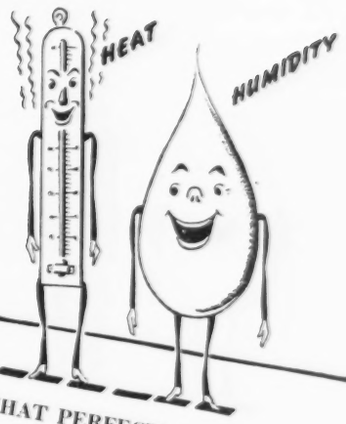
DU PONT
REG. U. S. PAT. OFF.

The R. & H. Chemicals Department
E. I. DU PONT DE NEMOURS & COMPANY (INC.)
Wilmington, Delaware

District Sales Offices: Baltimore, Boston, Charlotte, Chicago, Cleveland, Kansas City, Newark, New York, Philadelphia, Pittsburgh, San Francisco

THEY TOE THE LINE

ALL YEAR 'ROUND!



WHAT PERFECT
indoor weather
MEANS TO RAMSEUR HOSIERY MILLS

1 Ideal temperature and humidity conditions . . . automatically maintained.

2 Uniform rate of production.

3 Higher plant and personnel efficiency.

4 Fewer "seconds" and "rejects".

5 Ample ventilation.

6 Protection of high grade quality. IN SHORT . . IT PAYS FOR ITSELF IN SAVINGS . . .

Enjoy savings and advantages such as listed. This actual case history may point the way!

Summer or winter, 24 hours a day, there is no visible fluctuation from the ideal in temperature and humidity—at the Ramseur Hosiery Mills, Ramseur, N. C. For this fine, modern mill is equipped with a Sturtevant Plan No. 3 Humidifying and Evaporative Cooling System.

It will pay you to re-read the list of resulting savings and advantages which this mill is enjoying. For here is actual evidence of exactly what can be accomplished by automatically controlling temperature and humidity conditions—evidence that probably will suggest similar possibilities in your own mill.

You can well imagine the importance of such controlled conditions in a full-fashion hosiery mill like Ramseur. For perfect indoor weather helps to assure accurate adjustment of delicate knitting machinery at all times. It is essential to correct tension, length and width of silk hose; required pliability of fibres; freedom from gumming, breakage of needles, and rusting of machinery. Yes, it means real savings!

In your mill, too, one of the four Sturtevant plans outlined may help make similar savings. Whether you want a completely engineered humidifying and evaporative cooling system like that at Ramseur Hosiery Mills or merely a simple air circulation unit, you'll find one of these plans meets your requirements . . . fits *your* pocketbook equally well!

Why not discuss your humidifying and cooling problems with one of our representatives? He will prove to be fully informed and eager to help you. Just get in touch with our nearest office below. Our 30 years of air conditioning experience are at your service.

COOLING AND AIR CONDITIONING DIVISION • B. F. STURTEVANT COMPANY
Hyde Park, Boston, Mass. Atlanta Camden Chicago Greensboro Los Angeles New York

Sturtevant
REG. U. S. PAT. OFF.
Puts Air to Work

PLAN 1.

Vap-Air Units—An extremely low cost standardized unit for room cooling in conjunction with an existing humidifying system, supplying automatically controlled outside air. Easily installed by mill mechanics, it maintains even relative humidity at all times, prevents over-humidification, insures uniform distribution of air. All under automatic control.

PLAN 2.

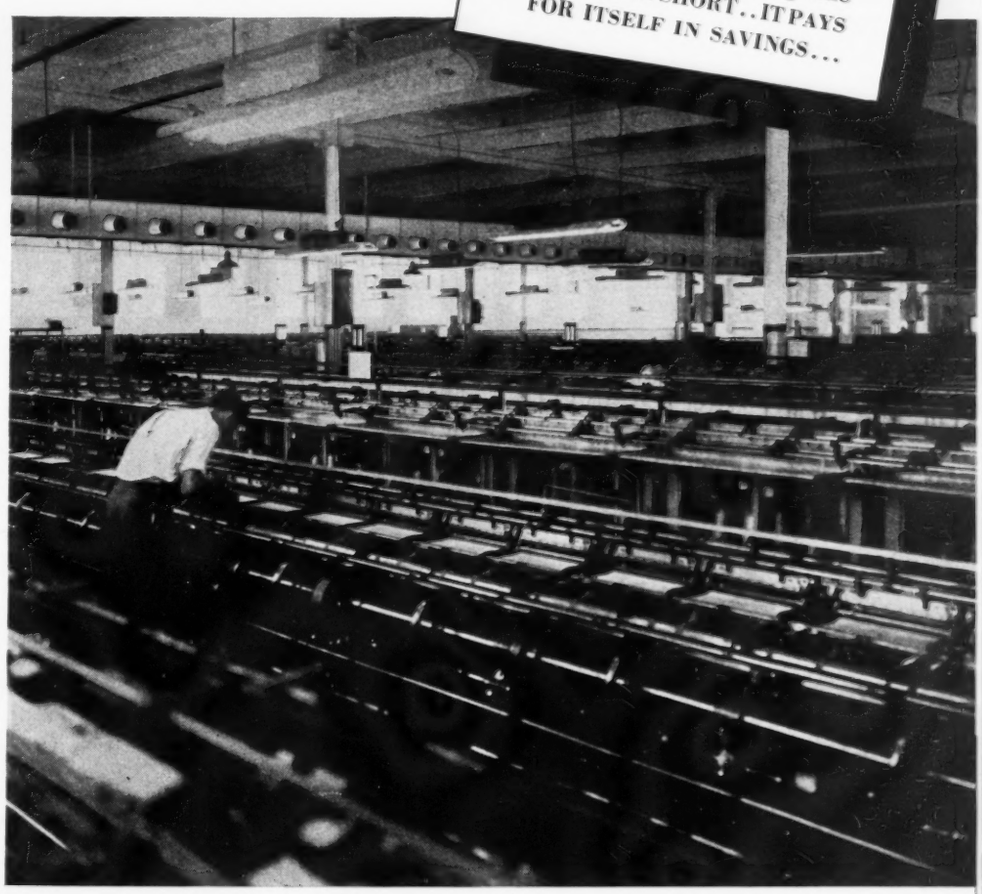
Vap-Air Blender Units Plus Your Head System—A carefully engineered low cost system which provides a *guaranteed* summer temperature reduction. Installation under the supervision of Sturtevant experts includes revision of present humidifying system so as to provide desired degree of temperature reduction most efficiently. All under automatic control.

PLAN 3.

Sturtevant Textile Evaporative Cooler and Humidifier System—A "tailor-made" system, completely installed, of either several unit systems, or one large system. Provides lowest possible temperature obtainable without use of refrigeration. All under automatic control.

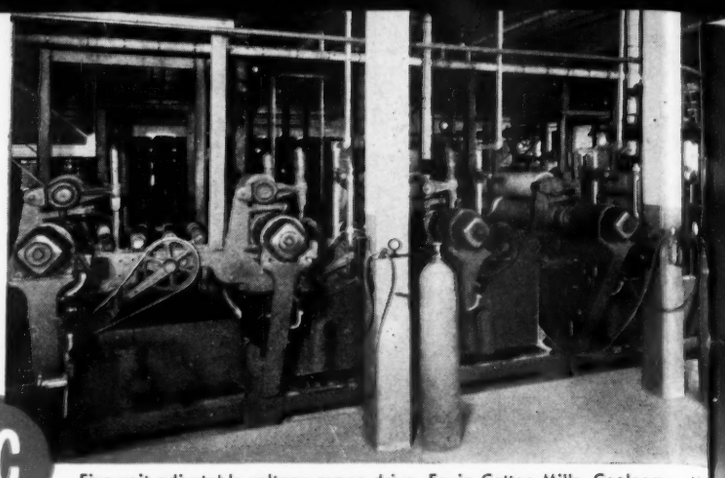
PLAN 4.

Sturtevant Textile Evaporative Cooler and Humidifier System Combined with Supplementary Head System—Essentially the same as Plan 3 but adapted for rooms requiring relative humidity above 65%. All under automatic control.

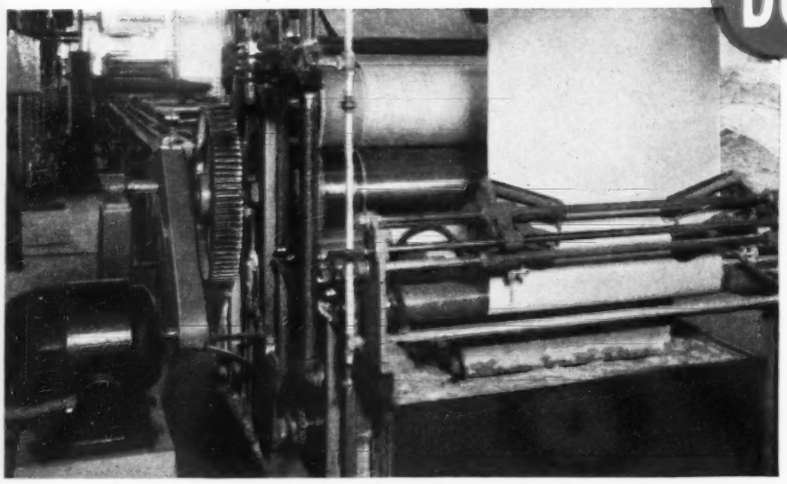


COOLING AND HUMIDIFICATION TO FIT YOUR POCKETBOOK

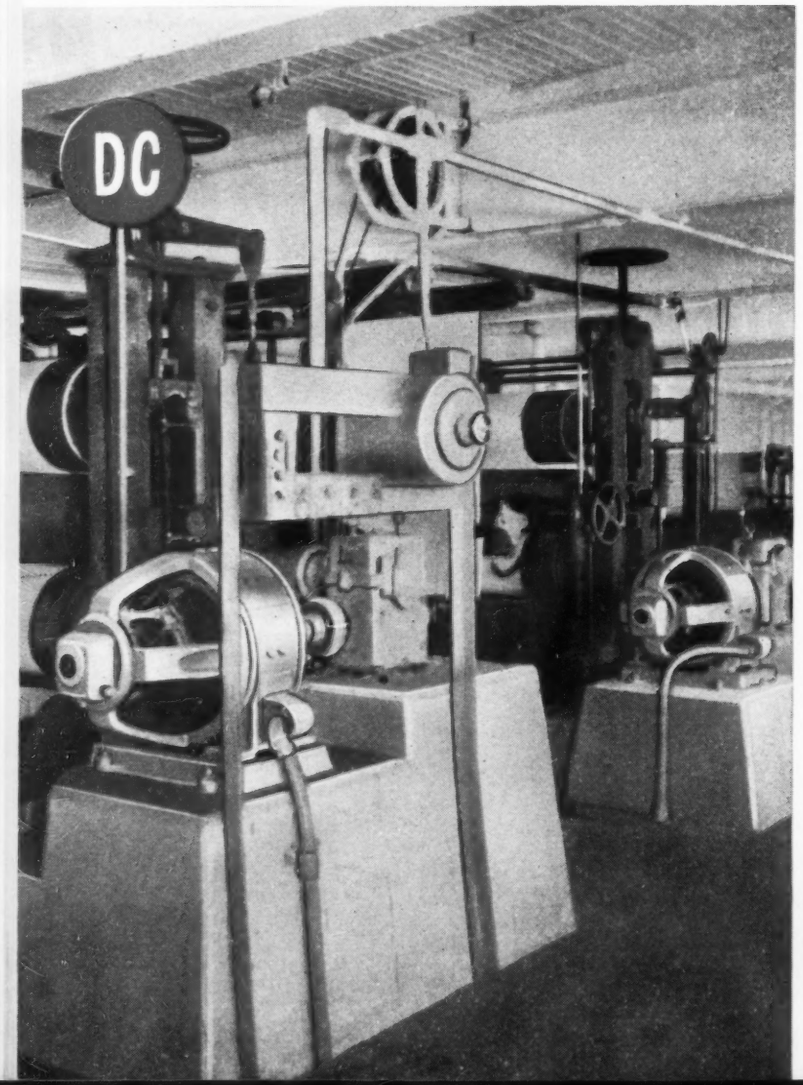
1. ADJUSTABLE VOLTAGE This type of range drive provides a wide speed range, and is giving excellent performance. Commonly it provides speed ranges of 8 to 1, and in special arrangement, up to 20 to 1. Speed changes with this drive are effected through varying the d-c voltage applied to the armatures. Speed of the range is controlled from one rheostat. Supplementary rheostats are used to synchronize the motors at the follower units. Equipment for this drive includes motors for driving the units, a motor-generator set, a source of constant-voltage direct current for excitation, and the various necessary and related control devices.



Five-unit adjustable-voltage range drive, Erwin Cotton Mills, Cooleemee, N.



Entering-end of a six-unit adjustable-voltage range drive, Erwin Cotton Mills, Cooleemee, N. C.



Which

ONLY GENERAL ELECTRIC SUPPLIES ALL FOUR

ALL four kinds of range drive whether a-c or d-c provide *all* these advantages:

—Speed adjustable to the variety of goods.

—All motors in the range synchronized to operate over desired speed range.

—Control by means of conveniently located push-button stations.

—Individual units may be cut out of range, if desired.

—Low threading speed.

For further information on any of these drives, inquire of the nearest General Electric Office, stating the operating requirements in your mill, or write General Electric, Schenectady, New York.

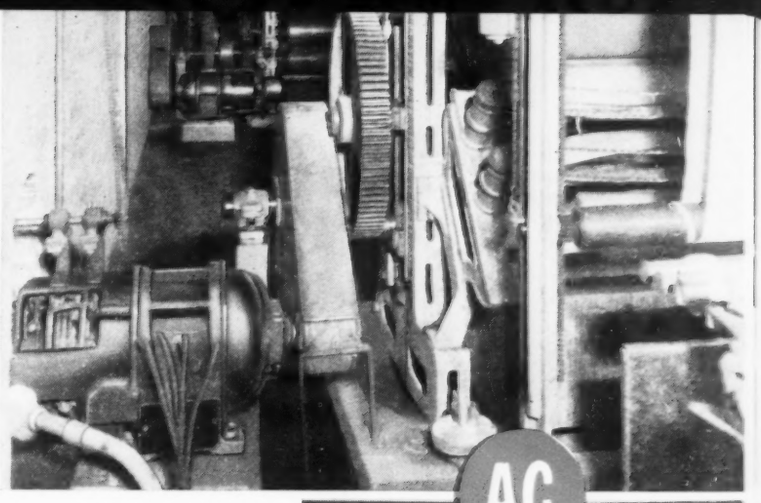
3. CONSTANT VOLTAGE Where primary direct current is available, adjustable speed (shunt-field control) d-c motors are recommended. This drive is economical at speed ranges up to approximately 5 to 1.

In addition to the motors, control equipment is necessary to synchronize the several units in range. As with the adjustable voltage system, the speed of all the motors can be controlled from one rheostat. Supplementary rheostats are used to synchronize the motors at the follower units. Armature resistance is used to obtain threading, or low, speed.

◀ Two units of a six-unit range drive, constant-voltage type

2. BTA BRUSH-SHIFTING Where alternating current is the primary source, and where a speed range of not more than 4 to 1 is satisfactory, the adjustable-speed motor (Type BTA) drive is successful. This is a unique type of brush-shifting motor sold in this country by General Electric only. Control is simple, and the absence of conversion apparatus (such as motor-generators) makes it easy to regroup existing units for a different set-up.

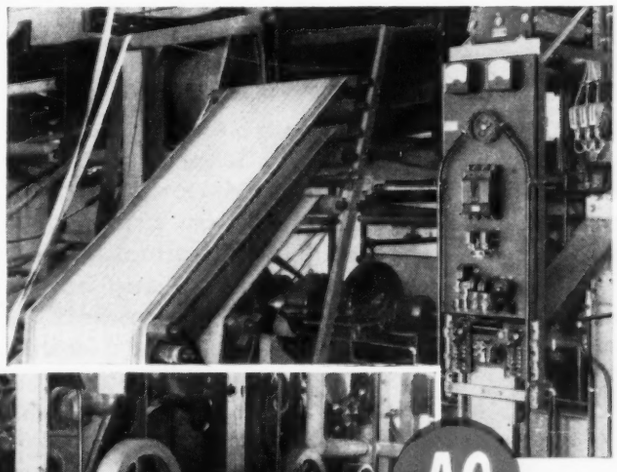
Wound-rotor motors are not recommended for range drives because of their limited speed range and series characteristics.

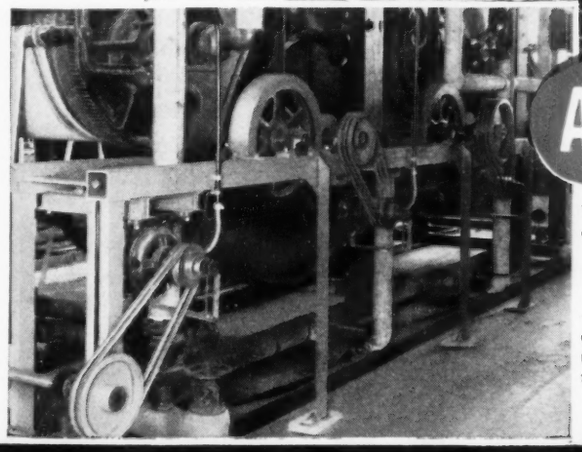


▲ Two units of a mercerizing range drive operated by Type BTA motors

Range Drive *for Your Mill?*

Brush-shifting motor drive for leading unit in a range





▲ Turbine-electric drive of printing range

◀ Batcher and dry-can motor drives in range with unit pictured above

4. TURBINE-ELECTRIC Though relatively new to the textile industry, this form of range drive has proved successful in more than a year of operation in two different installations.

It is desirable where there already is a source of 90-lb or more process steam. Application of this system ordinarily does not exceed the existing steam requirements of the process.

Equipment comprises a geared turbine coupled to a low-speed a-c generator. By shaft extension, the generator drives the leading unit of the range as it generates electricity for the a-c motors driving the follower units of the range.

Varying the speed of the turbine varies the speed of the generator and the lead unit; and since the generator "feeds" the follower motor units, they keep step in direct proportion.

Starting, stopping, jogging are controlled easily by convenient push-button arrangement. Basic speed adjustment of the range is made by hand, or by remote control, of the turbine throttle.

GENERAL ELECTRIC

"From now on — it's Cetosol for me!"

"Frankly, I was a little skeptical when I first heard of the results mills were getting from Cetosol. Then I tried it myself and now you'd need a crowbar to pry me loose from it. It simply can't be beat!"

Established 1866

CETOSOL is the name of a group of new synthetic resins developed by Stein-Hall laboratories after several years of intensive research. Cetosol comes in several types to fit nearly every textile purpose. Cetosol offers outstanding advantages in sizing, finishing and printing cotton, rayon, spun rayon, mixtures and all types of synthetic fibres. In many cases it eliminates the desizing operation. As a finishing agent it provides greater penetration, flexibility and laundry resistance. Because of its clarity, binding power and fastness, it is recommended for printing colored pigments, white discharges, white overprints, direct and acid colors. ★ You owe it to yourself to learn more about this great development. Your request will bring to your mill, without obligation, a member of our technical staff to show you how Cetosols can help meet your specific needs.

STEIN, HALL & COMPANY, Inc.
285 MADISON AVENUE NEW YORK
LABORATORIES AT · NEW YORK · CHARLOTTE · PROVIDENCE

"CETOSOL"

YOU MAY NEED

PRE-ACT

Pre-Act does a control job for you that only Pre-Act can do. It helps you govern those sudden disturbances which have been upsetting your process control.

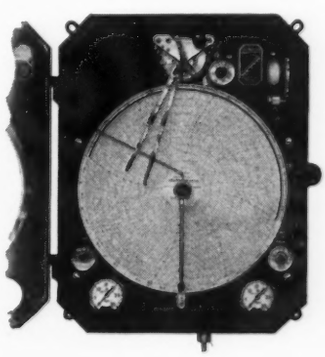
Pre-Act is the amazing new control effect created by Taylor Instrument engineers. It's available only in the great new Taylor Fulscope Controller.

Pre-Act insures automatic, constant precision control of your continuous processing operations. Its unique "on guard" action is based on the *rate* of control-point deviation. Here's what happens: there's a sudden control disturbance (either with or without sustained load changes), and it causes wasteful over-peaking or oscillating. Instantly Pre-Act acts—brings about a larger valve action. It smooths out those control kinks. Your trouble's over.

Pre-Act comes as a standard, fully adjustable unit assembly which may be incorporated in either the Recording or Indicating types of the new Fulscope Controller, originally or when you wish. Coupled with *Adjustable Sensitivity* and *Automatic Reset*, it makes the Taylor Fulscope Controller the ultimate instrument for profitable process control. Find out just how *you* can save money—by writing Taylor Instrument Companies, Rochester, N. Y. *Today*. Also Toronto, Canada. In Great Britain: Short & Mason, Ltd., London, Eng.

• • •

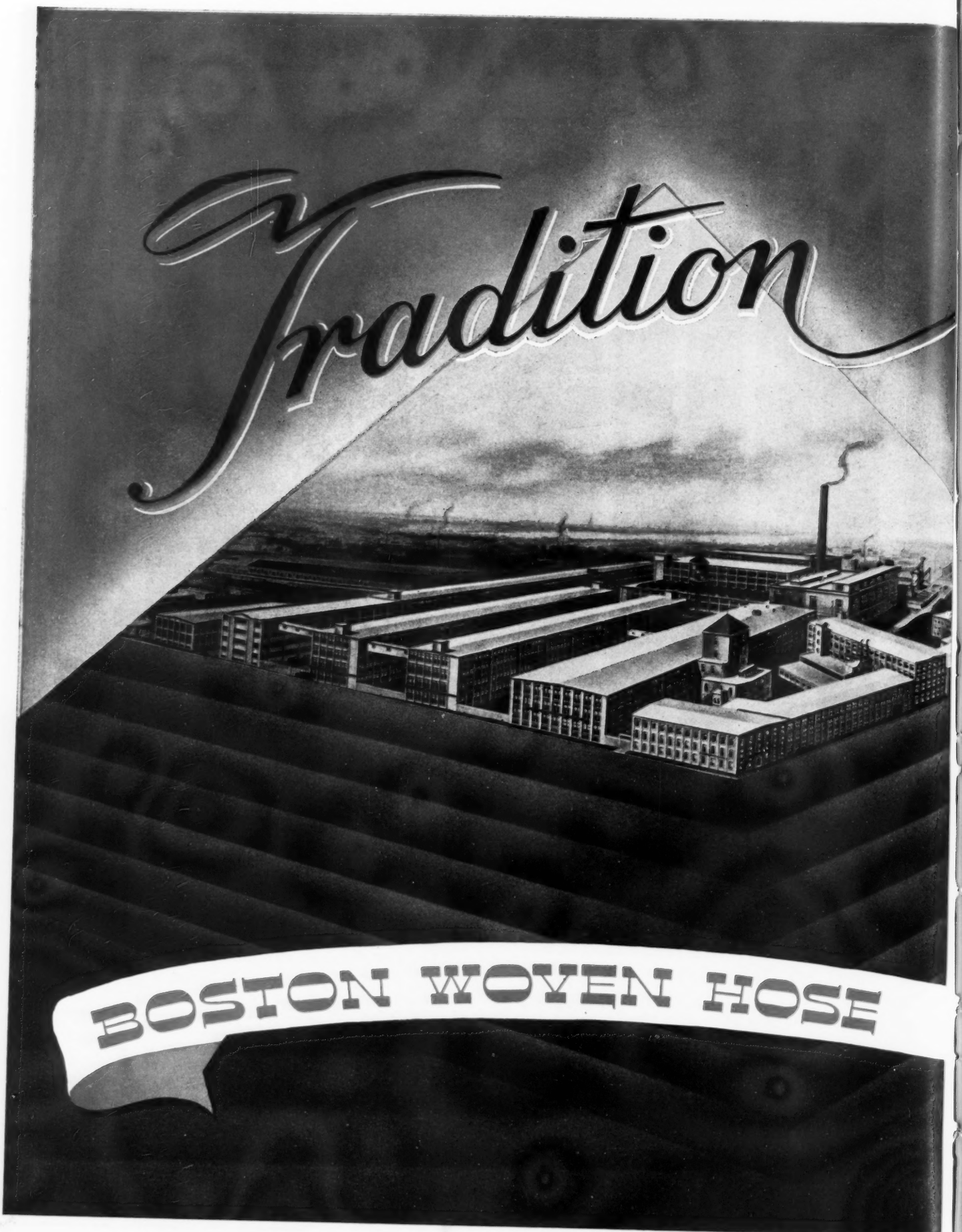
5 Forms of Control Available in the
NEW TAYLOR FULSCOPE CONTROLLER

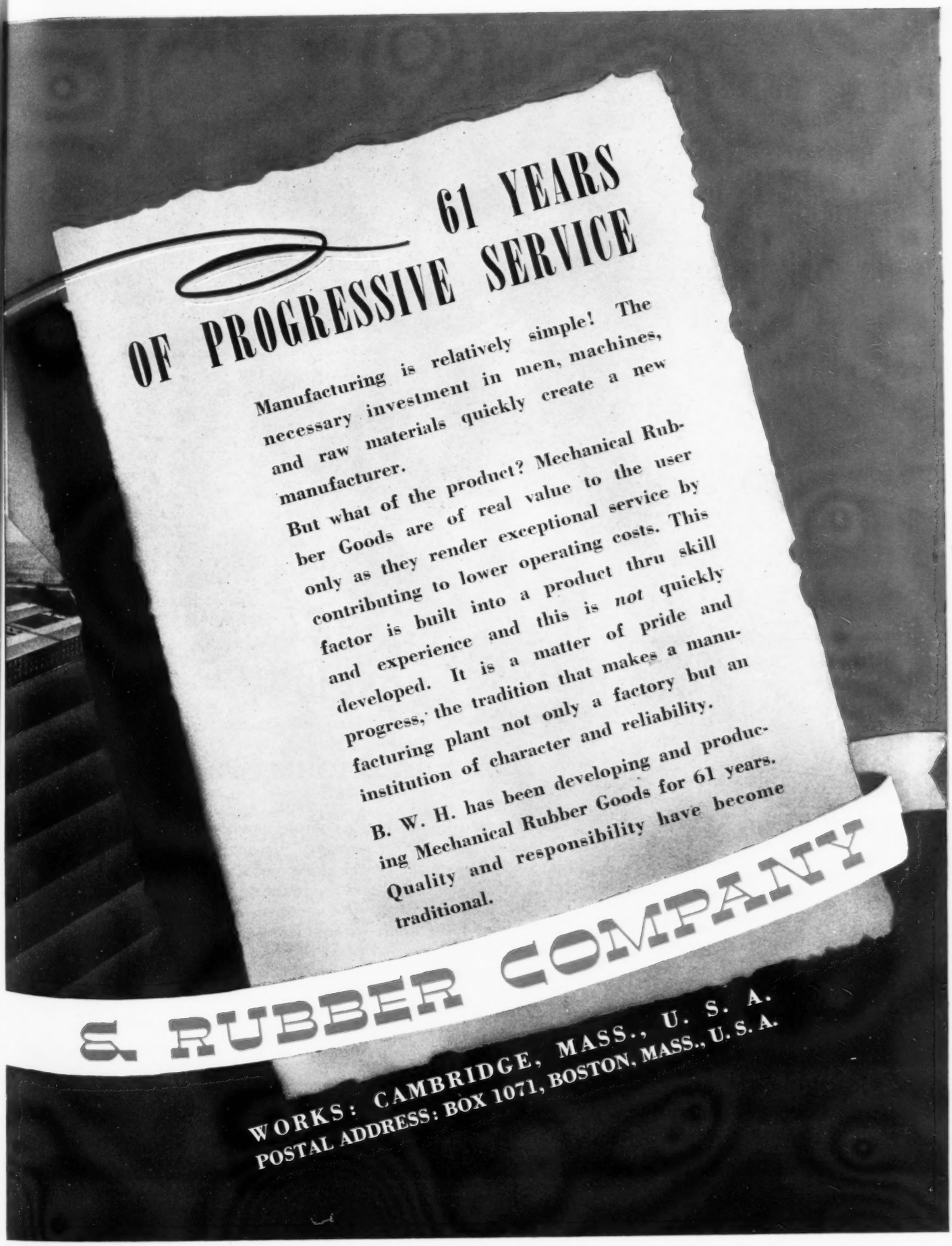


Taylor

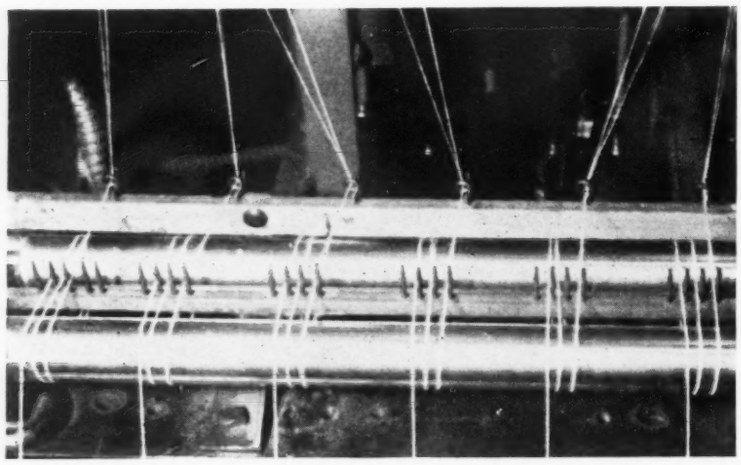
Indicating Recording Controlling

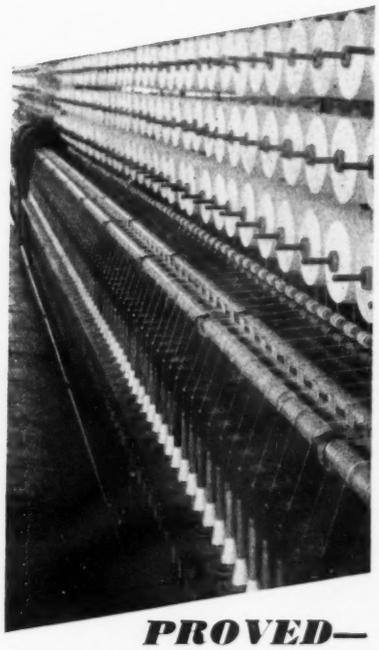
TEMPERATURE, PRESSURE, FLOW *and* **LEVEL INSTRUMENTS**


Tradition
BOSTON WOVEN HOSE


61 YEARS
OF PROGRESSIVE SERVICE
Manufacturing is relatively simple! The necessary investment in men, machines, and raw materials quickly create a new manufacturer.
But what of the product? Mechanical Rubber Goods are of real value to the user only as they render exceptional service by contributing to lower operating costs. This factor is built into a product thru skill and experience and this is *not* quickly developed. It is a matter of pride and progress, the tradition that makes a manufacturing plant not only a factory but an institution of character and reliability.
B. W. H. has been developing and producing Mechanical Rubber Goods for 61 years. Quality and responsibility have become traditional.
RUBBER COMPANY
WORKS: CAMBRIDGE, MASS., U. S. A.
POSTAL ADDRESS: BOX 1071, BOSTON, MASS., U. S. A.

BACHMAN GUIDES *Save Money*





PROVED—
By Performance

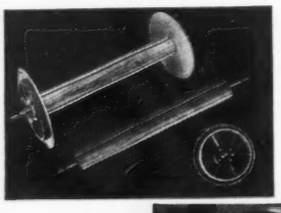
Eliminate "Blow-outs" - Increase Twister Speed

Invest In BACHMAN GUIDES !

The Bachman Guide is a patented device that eliminates the heavy top rolls on twisters. Its accomplishments are many. The saving in power alone makes it a worthwhile investment. "Blow Outs" and the resulting waste are reduced about ninety per cent. An increase of ten per cent in twister speed is possible without interfering with the quality of yarn or increase in breakage of ends. Traveler life is greatly increased. The twisted yarn is smoother, fuller, rounder, stronger, and cleaner. These are established facts substantiated by many satisfied mill operators.

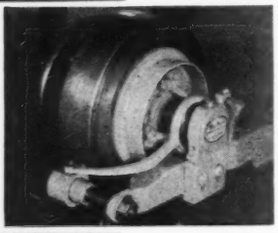
Also manufacturers of special textile machinery, cloth room machinery, and textile repair parts.

Other West Point Products



LOOM BEAMS AND BEAM-HEADS . . . West Point loom beams and beam-heads are superior in their operation and economy.

ENERGY LOOM DRIVE . . . makes possible higher production per loom per hour . . . provides smoother loom operation.

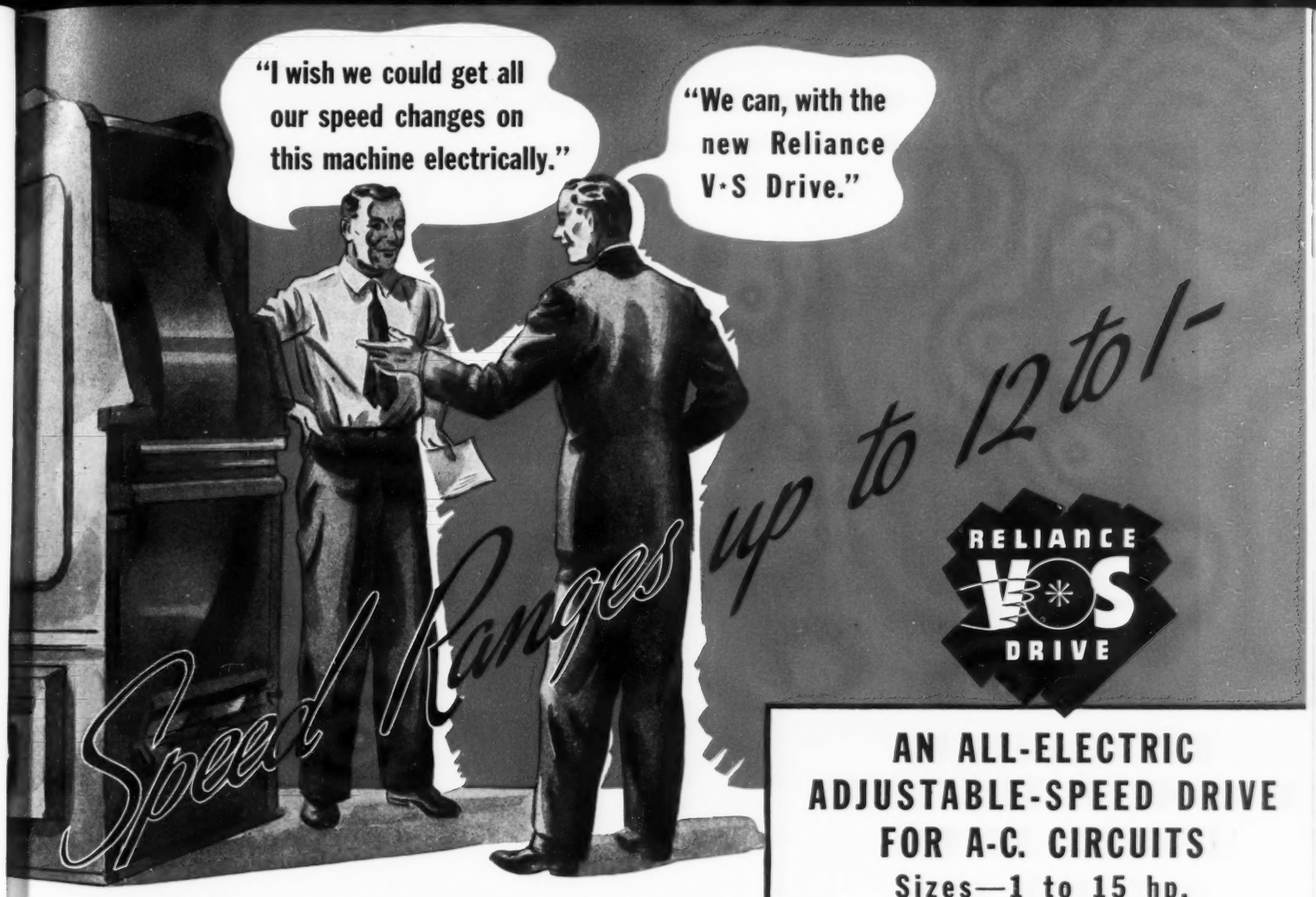


GEARS . . . Gears of all types —noted for their efficiency and durability.

WEST POINT FOUNDRY & MACHINE CO.

(Batson-Cook Company, Owners)

WEST POINT, GEORGIA


"I wish we could get all our speed changes on this machine electrically."
"We can, with the new Reliance V·S Drive."
Speed Ranges up to 12 to 1-
RELIANCE
V·S
DRIVE

AN ALL-ELECTRIC ADJUSTABLE-SPEED DRIVE FOR A-C. CIRCUITS

Sizes—1 to 15 hp.

THIS new drive takes full advantage of the fact that the electric motor is not only a power unit but also provides within itself a simple method of speed changing. It enables you to get power closer to the place where power is needed and to eliminate intermediate speed-changing devices. It takes humps and bulges out of your machines—aids efficient, streamlined design.

Starting and stopping are as simple as ringing a door bell; speed changing easier than turning a doorknob. And there are no limitations on convenience. The start-stop button and speed changer can be placed anywhere that a wire can be run. Both are so compact that they can be grouped with other control elements for the machine.

And these features help production, too—quick stopping, reversing, safe speeds for threading and inching, ample starting torque with smooth acceleration, stopping and starting without interfering with the speed setting.

Ask for Bulletin 307, which gives details

A Proven Principle of Speed Control

The Reliance V·S Drive employs a proven principle of speed control long used for large units. The "packaged" Speed Control Unit now makes available the smaller sizes for applications where cost has formerly prohibited their use.

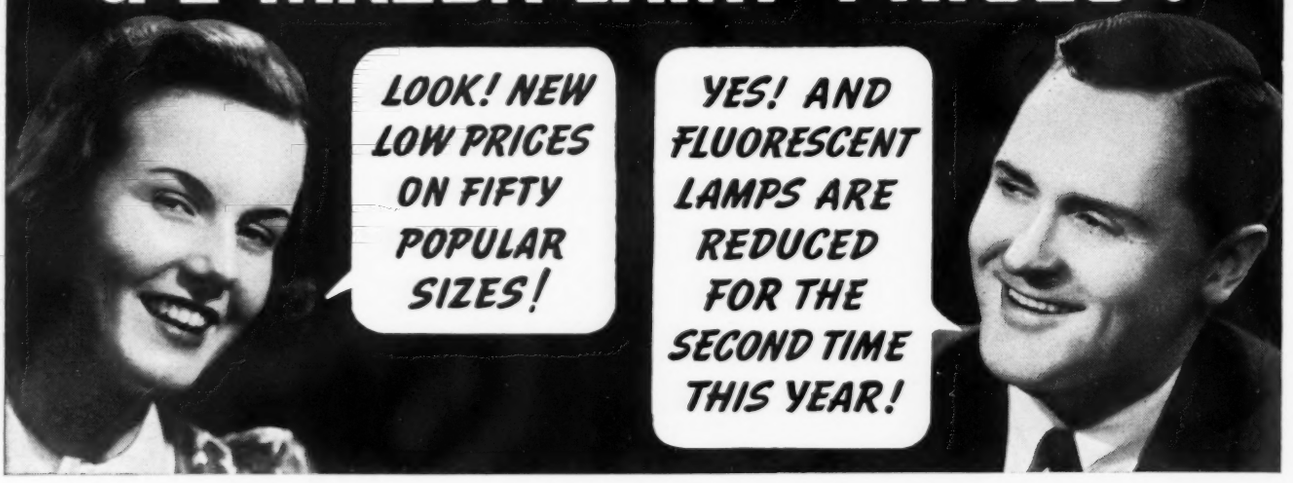
Reliance Electric & Engineering Co.

1085 Ivanhoe Road — Cleveland, Ohio

Birmingham, Boston, Buffalo, Chicago, Cincinnati, Detroit, Greenville (S. C.), Los Angeles, New York, Philadelphia, Pittsburgh, Portland (Ore.), St. Louis, San Francisco, Syracuse (N. Y.), and other principal cities.

RELIANCE A-C D-C MOTORS

GENERAL ELECTRIC REDUCES G-E MAZDA LAMP PRICES!



20TH MAJOR PRICE REDUCTION IN 19 YEARS!

New Prices Effective June 1, 1940

200 watt	was 30¢	now 27¢
300 watt (medium base)	was 50¢	now 45¢
300 watt (mogul base)	was 70¢	now 65¢
500 watt	was $1.20	now $1.10
750 watt	was $3.75	now $3.25
1000 watt	was $4.00	now $3.50
1500 watt	was $5.75	now $5.25

PRICES ALSO REDUCED ON THESE POPULAR SIZES

7½, 15, 25 watt G-E MAZDA lamps		now 10¢
40, 50, and 60 watt	were 15¢	now 13¢
75 and 100 watt	previously reduced to	15¢
150 watt	previously reduced to	20¢

Prices also reduced on Silvered Bowl, Daylight Lamps, and Spotlight and Floodlight Lamps

MAZDA "F" FLUORESCENT LAMPS *(Daylight and White)*

15 watt T-8	was $1.15	now 95¢
15 watt T-12	was $1.45	now $1.25
20 watt T-12	was $1.65	now $1.25
30 watt T-8	was $1.50	now $1.25
40 watt T-12	was $2.30	now $1.90

Prices also reduced on blue, green, pink, gold and red

MAZDA "H" MERCURY LAMPS

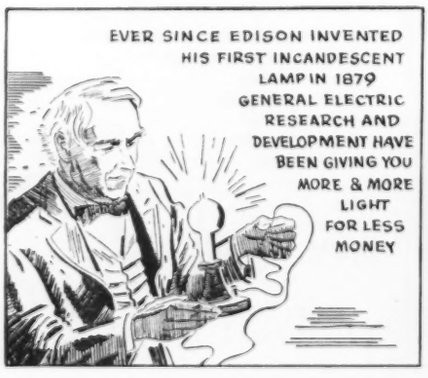
400 watt	was $12.50	now $11.00

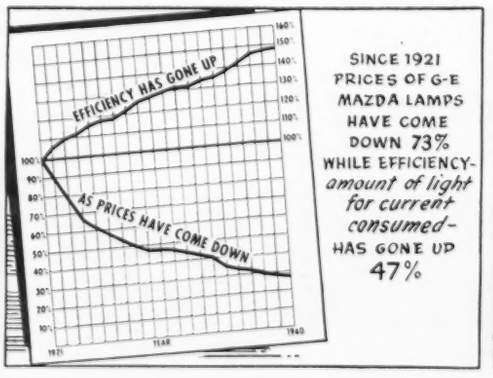
ROUGH SERVICE LAMPS

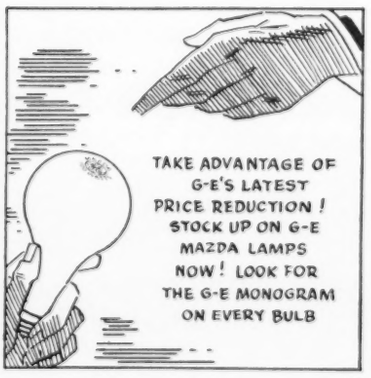
50 watt	was 30¢	now 25¢
100 watt	was 45¢	now 35¢

G-E MAZDA LAMPS

GENERAL ELECTRIC


EVER SINCE EDISON INVENTED HIS FIRST INCANDESCENT LAMP IN 1879 GENERAL ELECTRIC RESEARCH AND DEVELOPMENT HAVE BEEN GIVING YOU MORE & MORE LIGHT FOR LESS MONEY

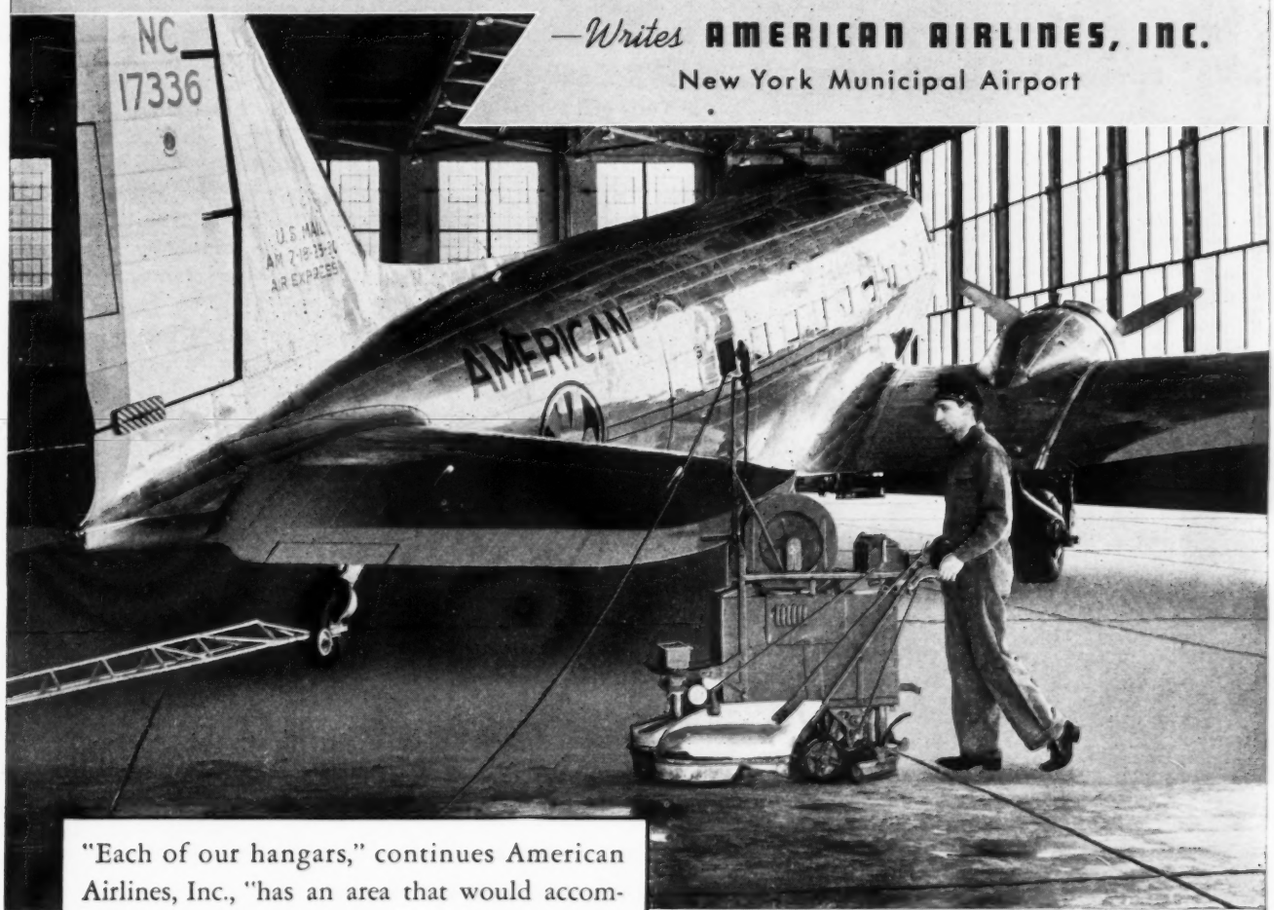

EFFICIENCY HAS GONE UP
AS PRICES HAVE COME DOWN
YEAR
1921
1940
SINCE 1921 PRICES OF G-E MAZDA LAMPS HAVE COME DOWN 73% WHILE EFFICIENCY-amount of light for current consumed-HAS GONE UP 47%



"Finnell Equipment CLEANS OUR FLOORS IMMACULATELY

. . . including most penetrating grease spots."

—*Writes* **AMERICAN AIRLINES, INC.**
New York Municipal Airport



"Each of our hangars," continues American Airlines, Inc., "has an area that would accommodate a full-size football field with 12,000 square feet left over for bleachers.

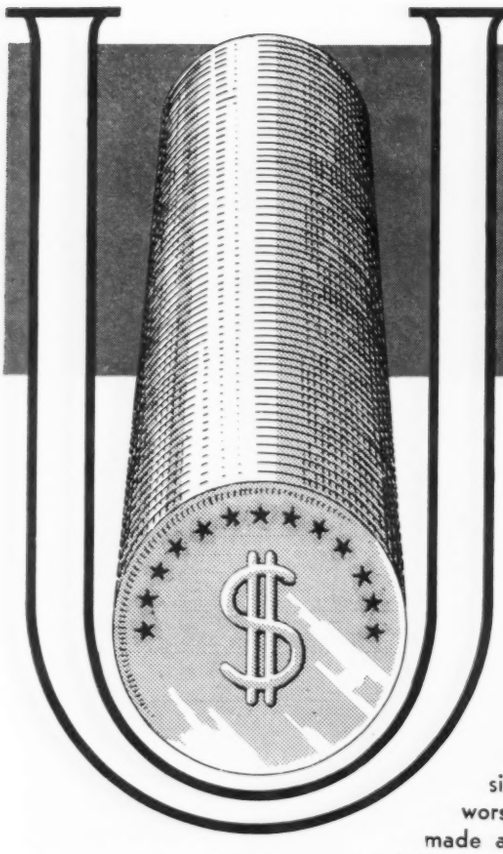
"With the continuous overhauls and checks going on, a considerable amount of oil and grease is dropped on the floor. Your Combination Scrubber, with one operator, thoroughly cleans the entire floor area—removing every trace of the oil and grease—in three-quarters of a working day."

The Combination Scrubber shown in the illustration is designed for use on large, open area floors. It does the complete cleaning job—scrubs, rinses, and dries the floor. *Finnell* also offers a Combination Scrubber of more compact design, for use in narrow lanes and otherwise congested areas. 43 different sizes and types in the complete *Finnell* line . . . for low-cost maintenance of clean, safe floors.

See a Finnell in action . . . on your own floors. No obligation. Phone nearest *Finnell* branch, or write Finnell System, Inc., 1306 East Street, Elkhart, Indiana.

FINNELL SYSTEM, Inc.

Pioneers and Specialists in **FLOOR MAINTENANCE EQUIPMENT**

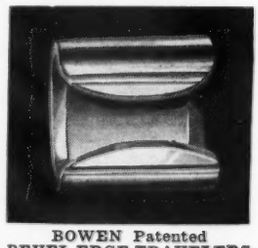


UNIFORM

Absolute uniformity is the standard set by the United States Treasury for each newly minted coin and that ideal is not too high for the U. S. Ring Traveler Company. Ultra-modern machine tools assure minute exactness in the shape, size and weight of each traveler, and only the best quality steel and bronze alloys that can be found are used. Not satisfied with "a traveler for every yarn" they must be absolutely uniform travelers that guarantee first quality spun yarns.

The BOWEN Patented Bevel Edge Traveler is a feature of Universal Standard and it produces an ideally smooth, round yarn. There are no rough or angular edges to cause flattened ends or split ends in throwing rayon and silks. Fly waste in the spinning and twisting of cotton, wool, worsted, asbestos and kindred fibres is eliminated. They are made and sorted, ready for immediate shipment, in all sizes and weights, for all kinds and counts of yarn.

The BOWEN Patented Vertical Offset Traveler has convincingly proved its worth in the twisting of cords and plys, during the most exhaustive and gruelling tests under actual running conditions. Designed on the true mechanical principle of taking a diagonal position, in relation to the ring, presents a bearing surface over the entire width of traveler. This design prevents gripping or binding—giving an even tension—an even more rounded product—and longer life to the traveler. Send for samples and prices.



BOWEN Patented
BEVEL EDGE TRAVELERS

This sealed Metal Shipping Container protects you. On a par with the high quality of U. S. products is the care we take to see that they reach you in perfect condition.

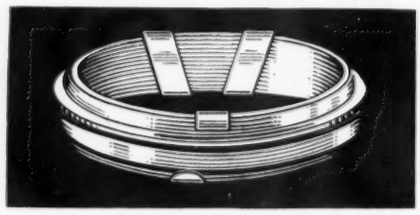
U. S. Ring Traveler Co.

PROVIDENCE, R. I. GREENVILLE, S. C.

AMOS M. BOWEN, Pres. and Treas.

Southern Sales Representatives:

WILLIAM P. VAUGHAN, P.O. Box 792, Greenville, S. C.
WILLIAM H. ROSE, P. O. Box 792, Greenville, S. C.
TORRENCE L. MAYNARD, P.O. Box 456, Belmont, N. C.
OLIVER B. LAND, P. O. Box 158, Athens, Georgia



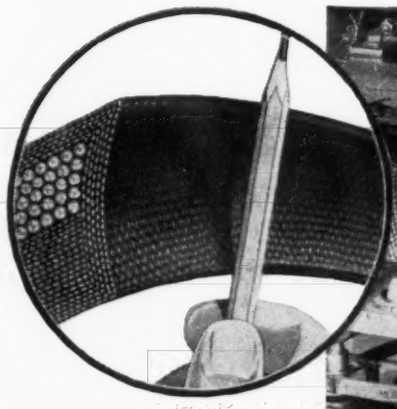
BOWEN Patented
VERTICAL OFFSET TRAVELER

UNIVERSAL STANDARD RING TRAVELERS

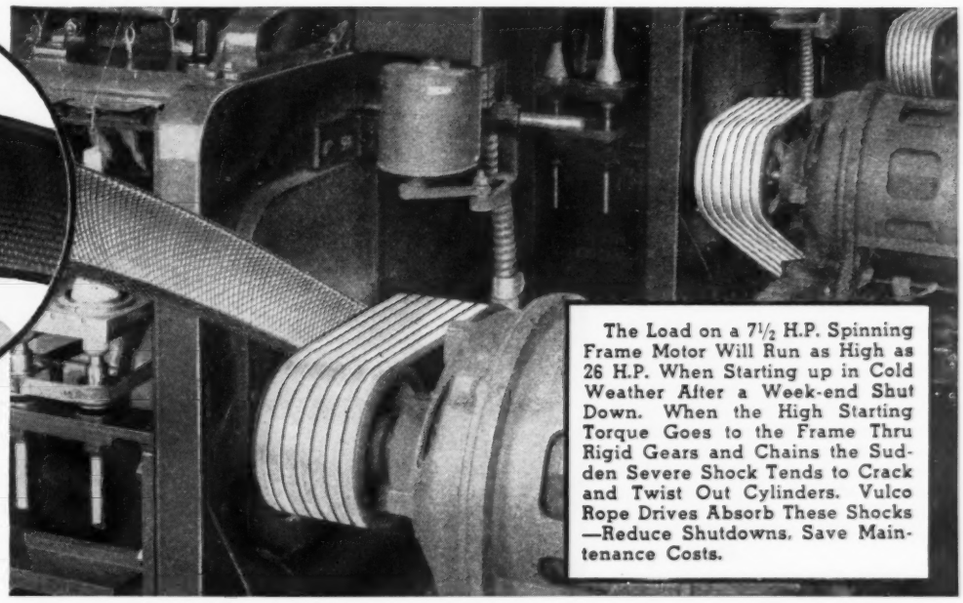
U.S. RING TRAVELER CO.

"A Traveler for Every Fibre"

BOWEN PATENTS



The **Concave Side** IS A GATES PATENT



The Load on a 7½ H.P. Spinning Frame Motor Will Run as High as 26 H.P. When Starting up in Cold Weather After a Week-end Shut Down. When the High Starting Torque Goes to the Frame Thru Rigid Gears and Chains the Sudden Severe Shock Tends to Crack and Twist Out Cylinders. Vulco Rope Drives Absorb These Shocks —Reduce Shutdowns, Save Maintenance Costs.

Just by Bending *Any* V-Belt

AS IT BENDS IN GOING AROUND ITS PULLEY YOU'LL LEARN OF A

REAL SAVING

. . . . in Belt and Power Costs

What Happens When a V-Belt Bends

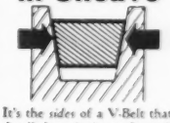
FIG. 1

FIG. 2

As a V-belt bends, you can actually feel its sides change shape! The top of the belt is under tension and grows narrower (see figure 1, at left). The bottom is under pressure—therefore it widens. These stresses force a straight-sided V-belt to bulge in the sheave groove (Fig. 1), and this produces uneven wear on the belt sides, resulting in *shorter life!*

Now look at figure 2. There you see how the concave side of the Gates Vulco Rope (U. S. Patent 1,400,539) exactly corrects this bulging. It insures a perfect fit in the sheave groove with uniform side-wall wear and, therefore, longer life! It insures that the entire side-wall grips the pulley—heavier loads are carried without slippage—belts are saved and power consumption reduced.

V-Belt in Sheave



It's the *sides* of a V-Belt that do all the *gripping* and get all the *wear*. That's why longer life for the *sides* means *longer life for the belt.*

The Gates Vulco Rope is the only V-belt built with the patented concave side.

THE GATES RUBBER COMPANY

Engineering Offices and Stocks in All Large Industrial Centers

GATES VULCO ROPE DRIVES

CHICAGO, ILL., 1526 South Western Ave. HOBOKEN, N. J., Terminal Building BIRMINGHAM, ALA., 1631 1st Ave., S. LOS ANGELES, CAL., 2240 E. Wash. Blvd.

DENVER, COLO., 909 South Broadway DALLAS, TEX., 2213 Griffin Street PORTLAND, ORE., 333 N. W. 5th Ave. SAN FRANCISCO, CAL., 2700 16th St.

A NOVEL WAY TO SAVE MONEY

From a large collection of old-fashioned mechanical savings banks comes this amusing contraption for saving money, called "Driving the Mule Into the Barn." It is operated by springs. First a coin is placed between the mule's heels. When a lever is pressed, a little dog runs out from the barn and jumps at the mule who kicks up his heels and throws the coin over his head into the barn, which cannot be opened except with a special key.

YOU SAVE MONEY, TOO, WITH DECERESOL* AND AQUASOL*

DECERESOL, one of the best known and most widely used of surface active agents, means savings for you because of its remarkable efficiency in wetting, penetrating and dye leveling all types of fabrics—cotton, wool, rayon and silk.

AQUASOL, a highly sulphonated castor oil made from the best grade of raw materials, produces excellent wetting out and softening results at a saving in cost because of its high efficiency, good solubility and unusually light color. It is available in various grades to meet your special requirements.

WRITE NOW for more specific information on the advantages of DECERESOL and AQUASOL.

*Registered U. S. Patent Office.

AMERICAN CYANAMID & CHEMICAL CORPORATION
30 ROCKEFELLER PLAZA • NEW YORK, N. Y.

Now!

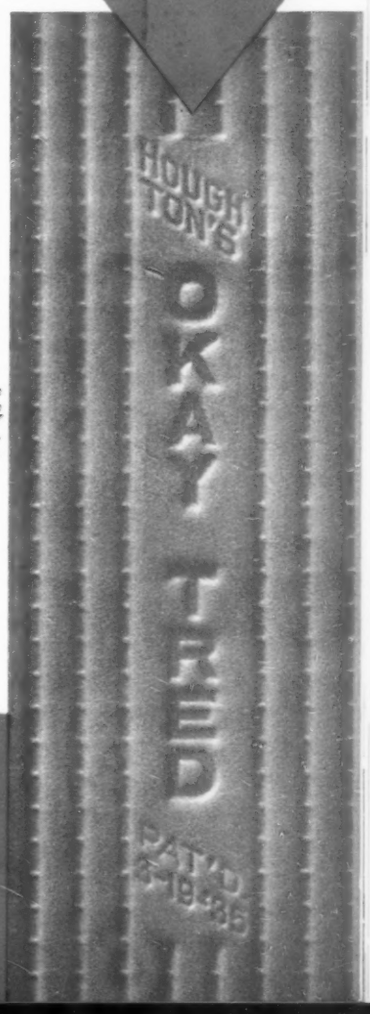
A TREADED LEATHER BELT, PROVEN BETTER THAN 1ST GRADE OAK...

...YET COSTING NO MORE!

Would you be interested in a specially tanned transmission belt which has greater pulling power, less slip, low elongation and greater pliability than smooth-surface first-quality oak . . . . and yet costing no more?

To perfect such a belt has been our aim . . . . supplementing the finest belt* money can buy, with a high-grade belt for run-of-mill jobs . . . . one which has Houghton's patented tread on its pulley surface.

We have it—OKAY TRED—not a "new" belt, but now publicly announced for the first time. To introduce this better-than-oak belt, we'd like to send you a sample and a folder giving the facts about Houghton's treaded belts. Write—



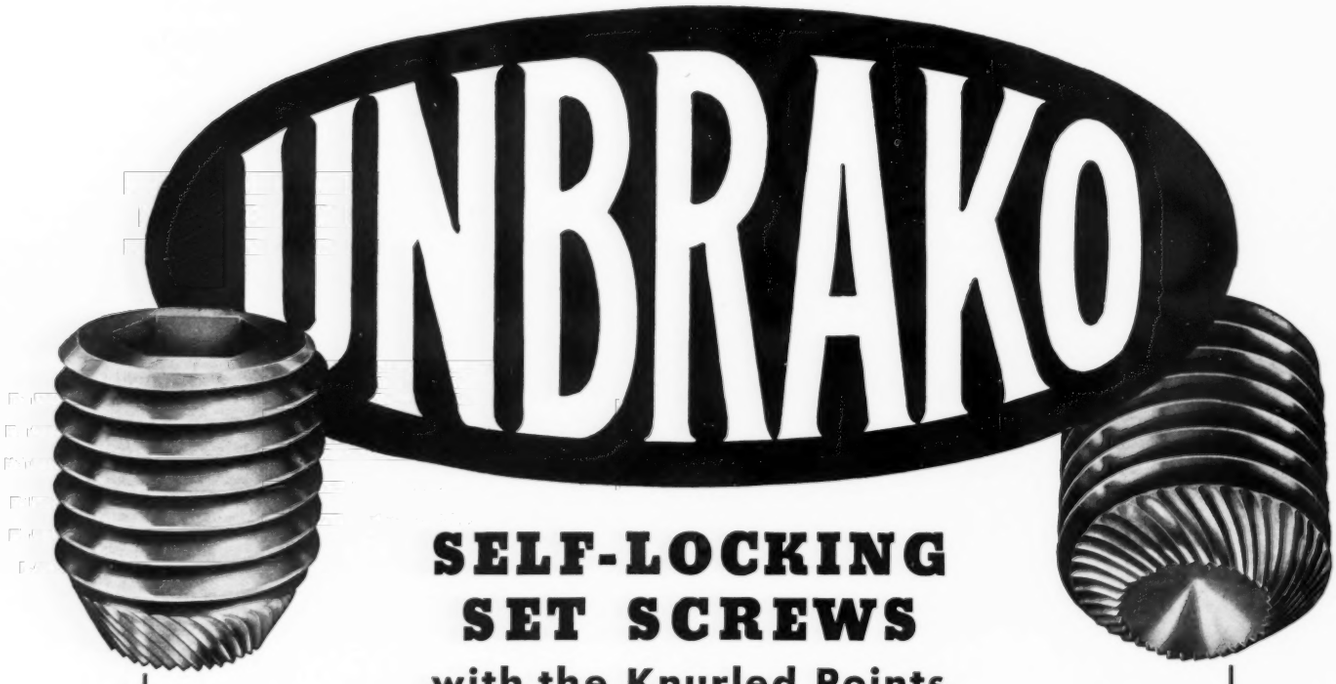
Actual size reproduction of OKAY Tred Leather Belting.

VIM TRED
LEATHER BELTING
America's premier belting—Certified to cost less per unit produced. Pulls more, grips better, tops the belting world.

E. F. HOUGHTON & CO.
Chicago - PHILADELPHIA - Detroit

75 years — The HOUGHTON LINE

OKAY TRED
LEATHER BELTING



SELF-LOCKING SET SCREWS

with the Knurled Points

The Set Screws that STAY SET

Just set them up with no more than average effort, and the ingenious knurled cup points automatically lock into place with vibration-defying tenacity. Once in place, "Unbrako" Self-Lockers simply can't rattle free no matter how severe the unwinding tendency. They *stay set!*

And this *unfailing ability to stay set* insures freedom from the common and expensive troubles caused when ordinary set screws work loose. Equip with "Unbrako" Self-Locking Set Screws and you'll enjoy trouble-free operation of your machinery . . . you'll enjoy the savings in maintenance costs they permit.

Remember too, that, in spite of their grip when in place, "Unbrako" Self-Lockers are easily applied, as easily adjusted or removed, and they can be re-used indefinitely—always with the same dependability.

Many maintenance men in some of the largest and best known textile mills in the country are proving these advantages by usage under all conditions. Why not send in for catalog and samples?—discover how easy it is to cut down your own maintenance costs and prevent breakdowns by specifying "Unbrako".

Self-Locking SQUARE HEAD Set Screws

These also have the same desirable protective features described above. Unfailing grip combined with the well known high strength and accuracy of "Unbrako" Products, make them your best buy where a square head set screw is needed. Investigate these, too!

STANDARD PRESSED STEEL CO.

BRANCHES
BOSTON
DETROIT
INDIANAPOLIS

JENKINTOWN, PENNA.
Box 582

BRANCHES
CHICAGO
ST. LOUIS
SAN FRANCISCO

Basically different Principle means . . .

LESS WEAR
LESS MAINTENANCE
LONGER LIFE

The Westinghouse Hermetically-sealed Unit
. . . the HEART of every "TEMPERED COLD" WATER COOLER

. . . reduces maintenance costs by eliminating (1) Belts (2) Pulleys (3) Gaskets (4) Shaft Seals (5) Commutator Brushes.

Fewer parts to wear. Even these parts operate in a permanent supply of oil. No oiling necessary. Built-in Watchman prevents costly motor burnouts. All this means EXTRA years of trouble-free performance.

MAINTENANCE COSTS DROPPED

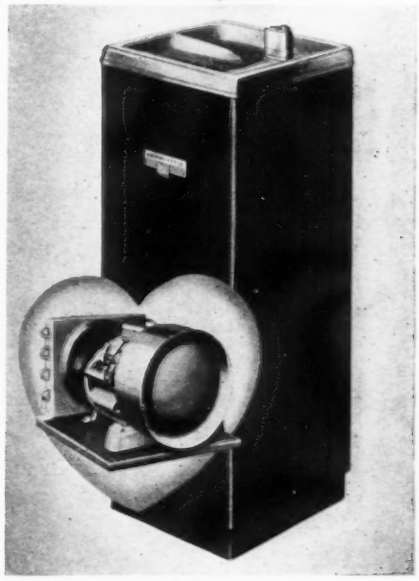
. . . with the PERMANENT COST CONTROL PLAN

Get permanent protection on your water cooler investment with this Westinghouse 3-point plan:

1 Standard one-year free replacement warranty on unit and cabinet.

2 During the next four years, if the Hermetically-sealed Unit should fail, Westinghouse replaces it without charge—and pays all transportation and labor costs.

3 After 5 years, if and when the Hermetically-sealed Unit should fail, Westinghouse will replace it on an equitable exchange basis. The exchange unit carries four years' replacement protection with all the features of the second part of the plan.



Exclusive "PLUS VALUE" Features

Non-Clog Drain • Stainless Steel Top • Special Capacity Booster • High Efficiency Cooling Chamber • Built-in Watchman • Hermetically-sealed Unit.

Westinghouse "Tempered Cold" WATER COOLERS
"Build Friendly Relations"

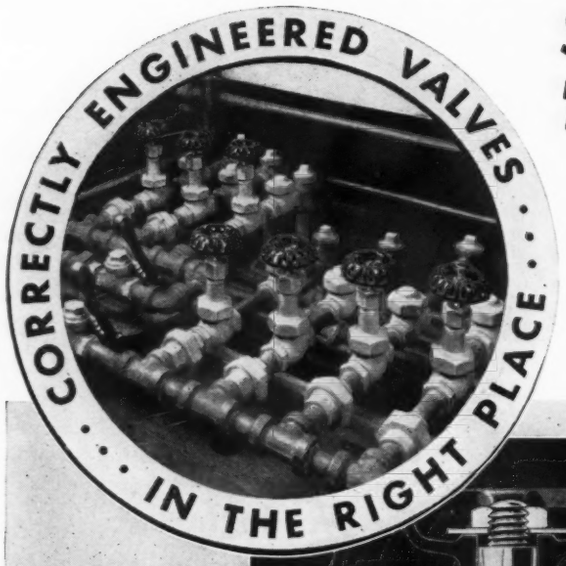
Westinghouse Section 83, 653 Page Blvd., Springfield, Massachusetts

Please send complete details on Westinghouse "Tempered Cold" Water Coolers and the Permanent Cost Control Plan.

Name .....

Address .....

City ..... State .....



Sturdily Constructed for Long Life, plus Easily Renewable, Non-Metallic Discs for Low Upkeep . . .

LUNKENHEIMER
BRONZE "N-M-D" VALVES

ARE "CORRECTLY ENGINEERED" FOR MAXIMUM ECONOMY ON THE JOB!

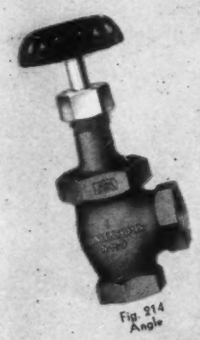


Fig. 214 Angle

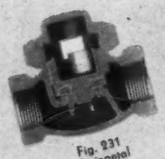


Fig. 231 Horizontal Check

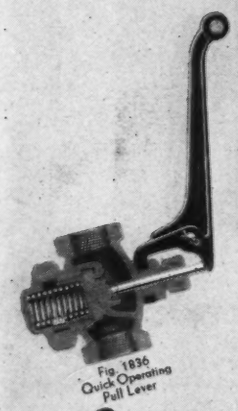


Fig. 1836 Quick Operating Pull Lever

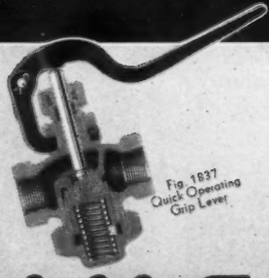


Fig. 1837 Quick Operating Grip Lever

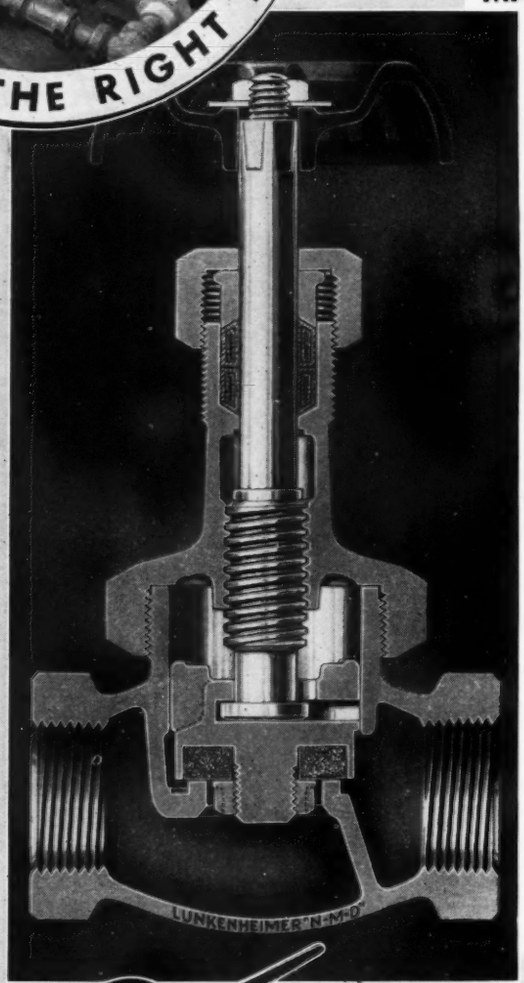


Fig. 123, Globe 150 lb. S.P.—300 lb. W.O.G.

Offering the same basic qualities of strength and ruggedness provided in our line of Bronze Gate Valves described last month. LUNKENHEIMER "N-M-D" VALVES give the buyer, who prefers a valve of renewable, non-metallic disc design, a product in which "Engineered Superiority" is also readily apparent.

In addition to heavy wear-resisting bronze stem, accurately machined with thread pitches calculated to permit tight closure without crushing the disc, plus other features of bonnet and body construction which reduce to a minimum any chance of failure and facilitate servicing when ultimately required . . . the design of the Lunkenheimer disc holder makes disc replacement the simplest sort of operation. Four long guides, extending upward from the holder, not only prevent the disc from "cocking" when in service, thereby always assuring a perfect seat, but, with the valve slightly open, also serve to lock the holder onto the stem, permitting the use of only one hand to remove the entire stem and bonnet assembly.

SEEING IS BELIEVING!

All of the features mentioned above are tangible evidence of the all-over superiority of Lunkenheimer products which originates with the selection of only the finest materials and is constantly assured through painstaking manufacturing and testing processes. You'll have to take our word for these latter qualities, but our distributor's salesman will gladly take a Lunkenheimer valve apart and show you exactly wherein it visibly excels any valve you may be using. Ask him for such a demonstration on his next call!

Send for copy of our new Catalog No. 78. We will include our handy "Guide", which makes selection easy by grouping valves, boiler mountings, and lubricating devices according to pressures, temperatures, and service applications.

ESTABLISHED 1862

THE LUNKENHEIMER CO.

"QUALITY"

CINCINNATI, OHIO, U. S. A.

NEW YORK CHICAGO
BOSTON PHILADELPHIA

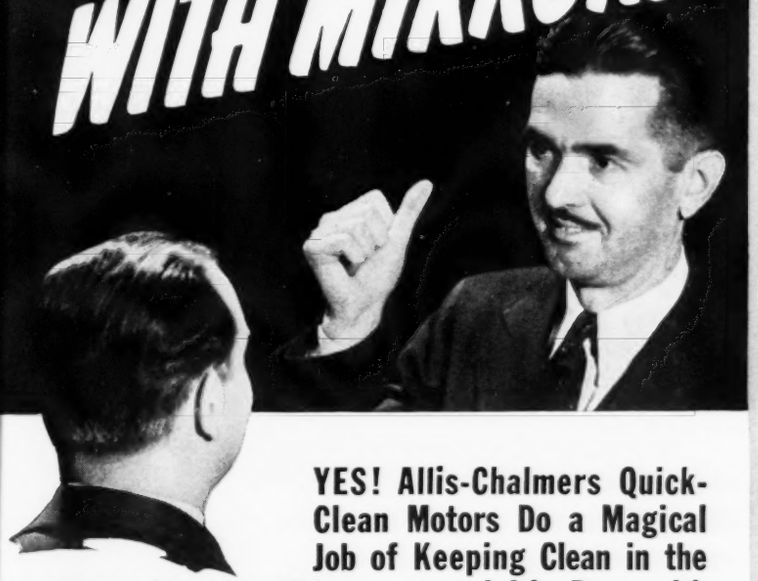
EXPORT DEPT. 318-322 HUDSON ST., NEW YORK

LUNKENHEIMER

14-3A-10

MOTOR MAGIC...

AND IT'S DONE WITH MIRRORS!



YES! Allis-Chalmers Quick-Clean Motors Do a Magical Job of Keeping Clean in the Worst Lint Conditions . . . and It's Done with Mirror-Smooth Stator Surfaces!

LINT AND FLY no longer menace motor operation in textile mills . . . not if you use Allis-Chalmers Quick-Clean Motors!

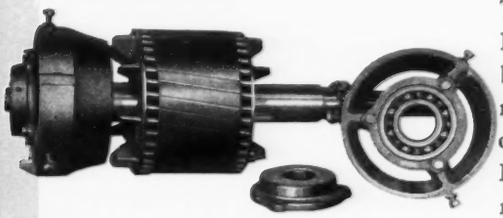
For Quick-Cleans are tailor-made to do a special job for the textile industry! And to textile men who know what damage lint, fly, and dust can do to motors, it seems like magic the way these new, modern motors keep themselves clean . . . give trouble-free, low-cost performance!

That's the kind of motor operation you want — to help you beat lint and dust conditions . . . to get smoother power for spinning frames and other mill machinery . . . to cut your power bill and maintenance costs!

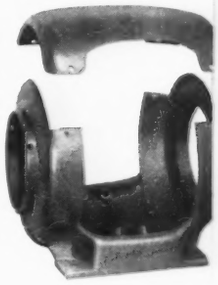
Don't delay—Allis-Chalmers Quick-Clean Motors can save you money. Get the facts . . . today . . . from the engineer in the district office near you. Or write Allis-Chalmers, Milwaukee.

NO LINT OR FLY CAN ADHERE to the Quick-Clean's smooth, hard stator surfaces — a big factor in making these motors lint-proof and fly-proof. All working parts are dust-sealed. The stator, rigidly supported on the motor base, is easily removable . . . interchangeable. Note how coils are completely shielded — another important Quick-Clean feature.

INDESTRUCTIBLE ROTOR is mounted on ball bearings in sealed cartridge units that keep oil in . . . keep dust out.

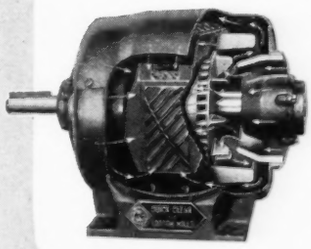


The Quick-Clean Rotor is silver brazed . . . and is rigidly supported on the motor base, Like the stator, the rotor is also removable as a unit . . . and can be interchanged readily. These rotor features combine to give long life . . . lowest possible maintenance.



RIGID FOUNDATION for Stator and Rotor is provided by the one-piece steel base and bearing support. Points of support for stator and rotor are accurately machined at one setting, insuring uniform air gaps. Extra protection is given the stator by an easily removable cover plate.

HERE'S THE QUICK-CLEAN PRINCIPLE! Dust-laden air drawn into motor is ejected at sides. Air passages are large and unobstructed . . . and all inside surfaces are glass-smooth, making it impossible for lint or dust to adhere. In Quick-Clean Motors you get full-measure construction throughout . . . extra-value performance that's bound to save you money!



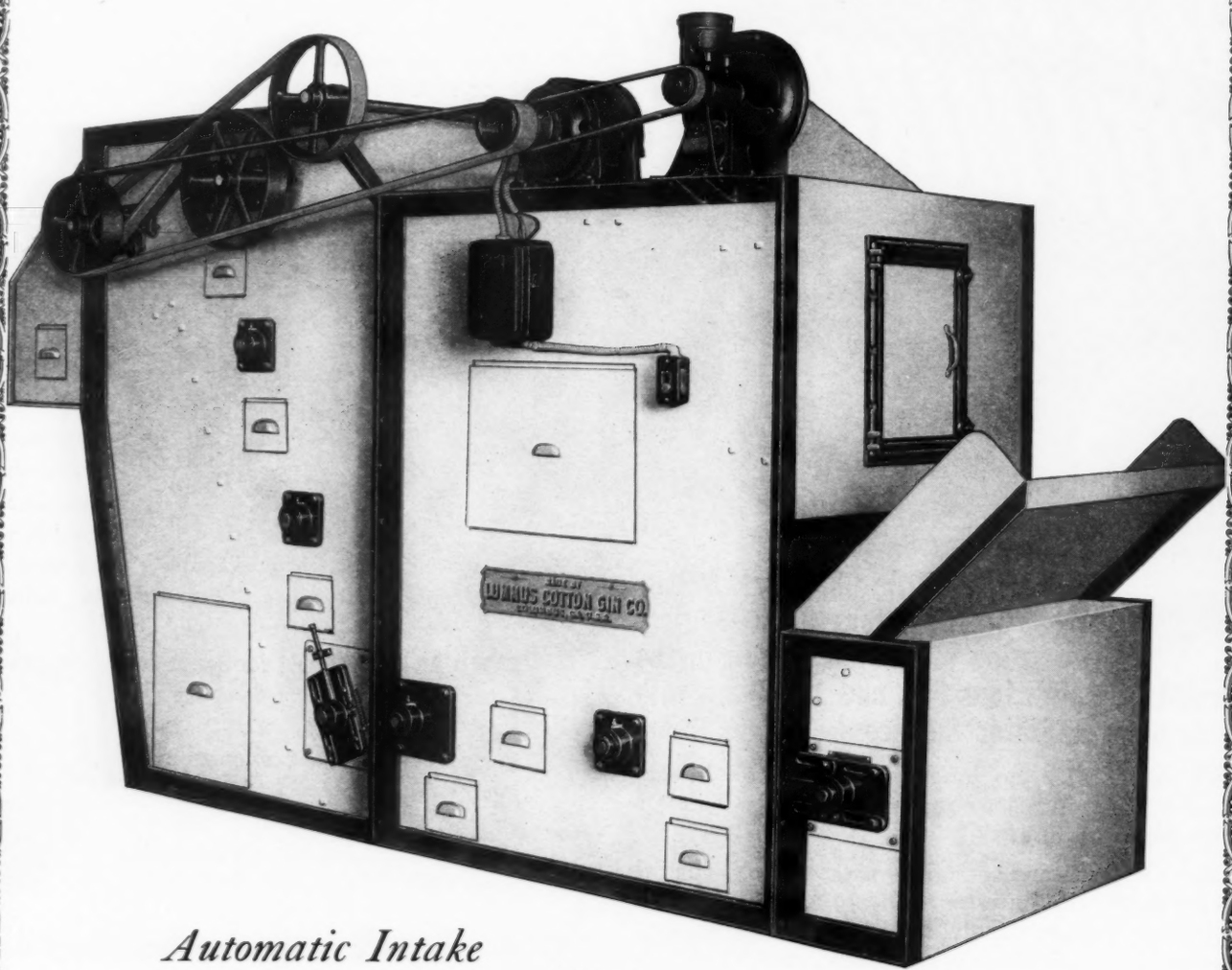
A 1245

Over 90 Years of Engineering Superiority Work for You When You Specify Allis-Chalmers!

ALLIS-CHALMERS

MILWAUKEE · WISCONSIN

THE LUMMUS BLENDING FEEDER



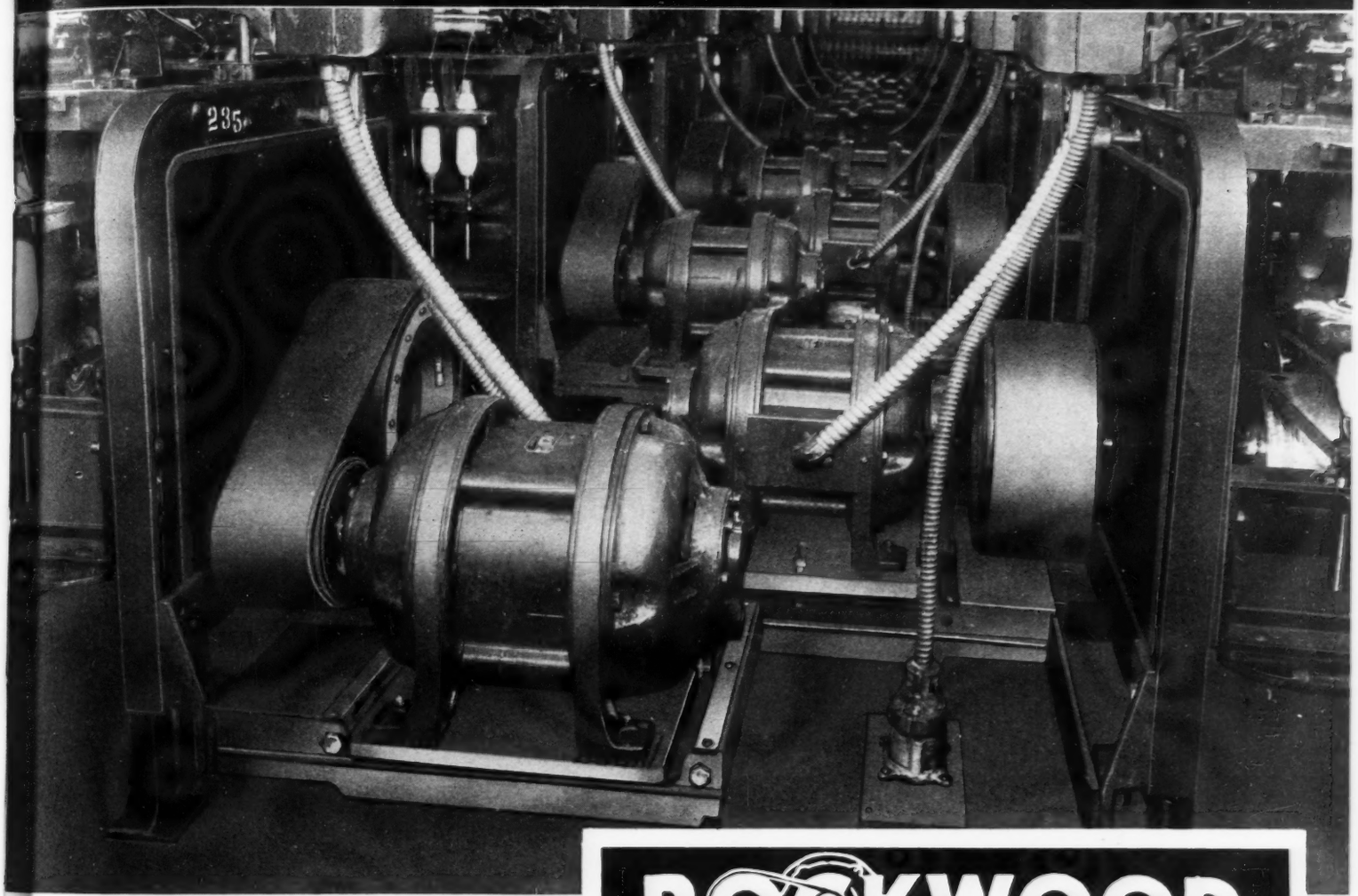
Automatic Intake
Cannot be Overfilled
Improved Cleaning Grids
Individual Motor and Dust Fan
All Ball Bearing Throughout

Sold by

AldricH MachinE

Greenwood, **WorkS** South Carolina

TALLASSEE MILLS CHOOSE ROCKWOOD DRIVES



Some of the many Rockwood pivoted-motor Drives in plant of Tallassee Mills, Tallassee, Alabama. Installed because they bring to their driven machines more and better production with less maintenance and reduced costs to run.

ROCKWOOD PIVOTED MOTOR DRIVE

Cotton mill after cotton mill chooses Rockwood Pivoted-Motor Drives.

When Rockwood Drives are used cotton mill machines produce more work of a better quality—and running costs are *reduced.*

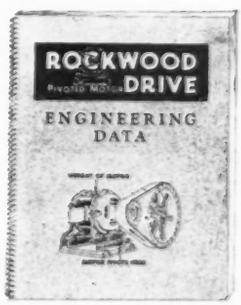
Progressive mills have found that Rockwood Drives are one sure way to get dependable driven machine speeds. And they know that uniform machine speeds lead to increased production and improved quality of work done.

ANY textile mill can expect to receive the same benefits—the same added profits.

WRITE US FOR A RECOMMENDATION AND QUOTATION ON ROCKWOOD DRIVES FOR YOUR MACHINES. The savings in power—in belt life—in reduction of maintenance expense—*in addition to* more and better output will soon pay for the drives. SEE YOUR ROCKWOOD DEALER OR WRITE US.

A NEW BOOK TO HELP YOU SELECT AND PRICE ROCKWOOD SHORT CENTER PIVOTED MOTOR DRIVES

NEW—an excellent Drive Data Book, giving complete information on Rockwood Drives. You will find it valuable. This book makes it easy to select and price the drive you desire. Every cotton mill superintendent, engineer and master mechanic will want a copy. SECURE YOUR COPY FROM YOUR NEAREST ROCKWOOD DEALER or write us. THE BOOK IS YOURS FOR THE ASKING.



ROCKWOOD MANUFACTURING COMPANY, INDIANAPOLIS, IND.

Manufacturers of Power Transmission Equipment

GIBSON GIRL—1940 MODEL

Suppose someone who lived forty or fifty years ago—say one of the founders of Mathieson—could pay us a visit today. And suppose we could have the pleasure of showing him the sights of 1940, of explaining the vast changes that have taken place since the turn of the century. What do you think would amaze the old gentleman most? If he were one of the pioneers who founded Mathieson, we believe he would be most interested in the revolutionary changes wrought by chemical progress and in the part his successors have played in building the present-day America. We would go about telling him the story as we tell it in this series of advertisements.

●Ah, Mr. M., so you recognize that silken rustle! But it's more than a petticoat—our 1940 Gibson Girl wears the material from the skin out. And we'll tell you another secret. It's not actually silk at all—it's rayon, the remarkable new synthetic fabric that is clothing American women of today with new elegance and enabling the humblest shopgirl to dress with a chic attainable in your day only by wealthy girls.

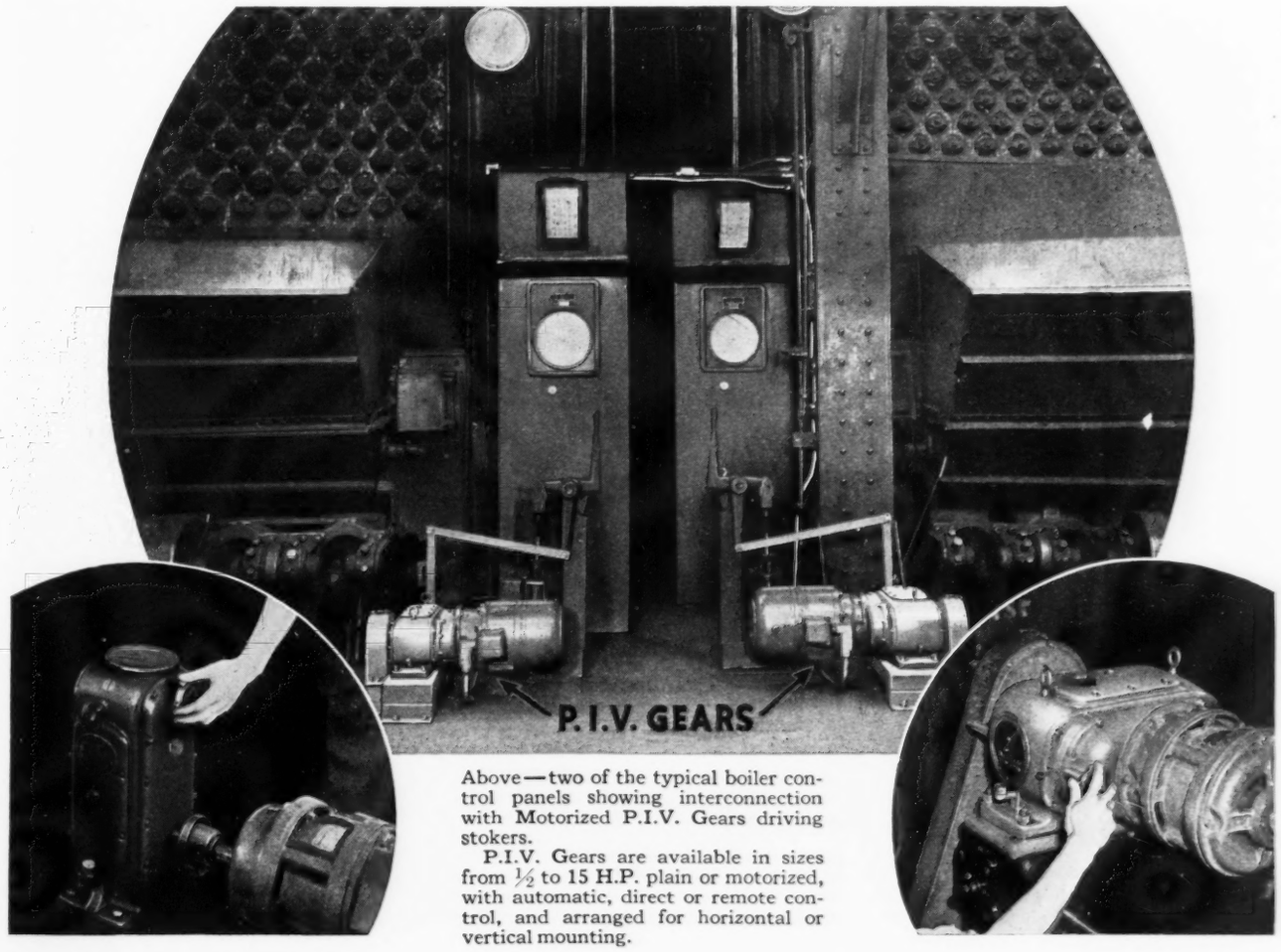
And you'll be interested, Mr. M., to know that the men who followed you at Mathieson have played a vital part in this and other modern developments in the textile field—pioneering time and again in the production and distribution of better, more economical raw materials—for this and other great American industries.

MATHIESON CHEMICALS

SODA ASH . . . CAUSTIC SODA . . . BICARBONATE OF SODA . . . LIQUID CHLORINE . . . BLEACHING POWDER . . . HTH PRODUCTS . . . AMMONIA, ANHYDROUS and AQUA . . . FUSED ALKALI PRODUCTS . . . SYNTHETIC SALT CAKE . . . DRY ICE . . . CARBONIC GAS . . . ANALYTICAL SODIUM CHLORITE

THE MATHIESON ALKALI WORKS (INC.)
60 E. 42ND STREET, NEW YORK, N. Y.

P.I.V. GEARS HELP BOOST BOILER EFFICIENCY IN COUNTRY'S LARGEST COTTON MILL



Above—two of the typical boiler control panels showing interconnection with Motorized P.I.V. Gears driving stokers.

P.I.V. Gears are available in sizes from ½ to 15 H.P. plain or motorized, with automatic, direct or remote control, and arranged for horizontal or vertical mounting.

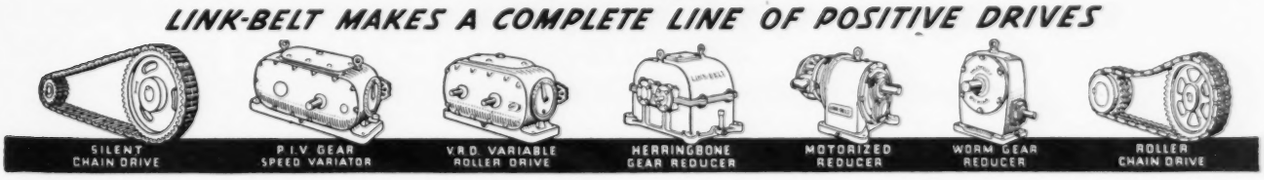
To consume over 79,000 tons of coal with an increased efficiency of 8% indicates a substantial saving. This was accomplished at the Riverside and Dan River Cotton Mills, Danville, Va., after a trial installation proved that old boilers could be made more efficient through modern control. Six boilers ranging from 540 H.P. to 750 H.P. are now equipped with Bailey meter control systems which regulate fuel bed conditions through Link-Belt motorized P.I.V. Gears driving the stokers. The superintendent states that the fuel saved in one year will repay the cost of the complete installation many times.

Many industries are finding the positive, infinitely variable speed control of the P.I.V. Gear an important factor in reducing waste, promoting uniformity and increasing saleable output. With this all-metal, compact unit, you can build into your machines, the versatility needed to meet today's varying production requirements. Book No. 1574 gives complete mechanical information and engineering data. Send for a copy, and for books on the other Link-Belt positive drives illustrated below.

LINK-BELT
P.I.V.
GEAR
SPEED CONTROL

LINK-BELT COMPANY, Philadelphia, Indianapolis, Chicago, Atlanta, Dallas, San Francisco, Toronto. Offices in principal cities. 8120

LINK-BELT MAKES A COMPLETE LINE OF POSITIVE DRIVES



A MEMO FROM THE BOSS

To: J.C.C.

From: B.K.

Just heard about the $1400.00 saving you made on 3 months operation of the print washing department. That's real money!

Let me congratulate you, Jim!

B.K.

HOW THE COLGATE-PALMOLIVE-PEET TECHNICAL MAN MADE THIS SAVING POSSIBLE

The Colgate-Palmolive-Peet man came in "cold" to see me one day. He talked our language, and his suggestion that he could save us money on our washing operations got my interest.

I was convinced that he could help us, so I agreed to a test run. After checking our process, the C.P.P. man suggested a change and worked with us in the plant while it was going through.

We checked results and found that the C.P.P. man had cut costs more than 20% —a saving of $1400.00 on our print washing operation for three months!

THIS IS AN ACTUAL CASE. MAYBE THE C.P.P. MAN CAN SAVE MONEY FOR YOU, TOO!

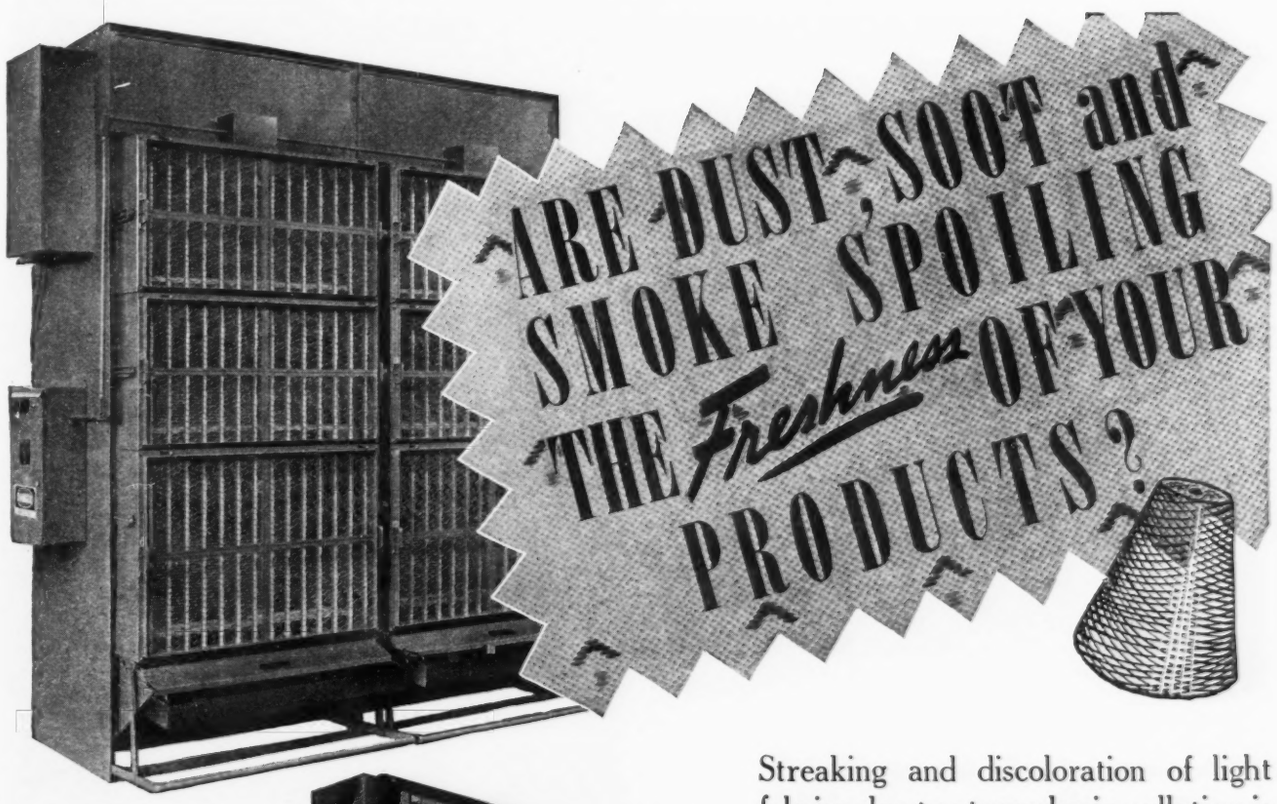
THIS case history shows how the free Colgate-Palmolive-Peet Consulting Service saved money for one textile manufacturer. It has helped many others, too.

Give this service an opportunity to do the same for you.

Colgate-Palmolive-Peet Co. makes detergents and wetting out agents to fit your processing requirements. These C.P.P. products usually cost less than "special" products which are made in smaller volume. Ask the C.P.P. Technical Man—or write to us direct. There is no obligation, of course.

COLGATE-PALMOLIVE-PEET CO.

INDUSTRIAL DEPT., JERSEY CITY, N. J.



ARE DUST, SOOT and SMOKE SPOILING THE *Freshness* OF YOUR PRODUCTS?

Streaking and discoloration of light fabrics due to atmospheric pollution is being eliminated in many plants by supplying properly filtered air to spinning and weaving rooms. AAF engineers have made a special study of textile dust problems and can recommend the proper type of filtering equipment for your needs. The benefit of their experience is available without obligation. Write for the address of the AAF engineer nearest you.

ELECTRO-MATIC Air Cleaner (above)

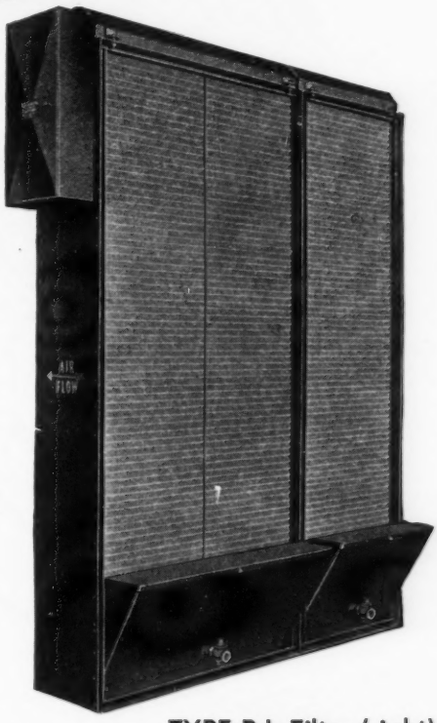
combines electric precipitation as an integral part of an automatic air filter for highest cleaning efficiency with smoke and fine soot particles.

●

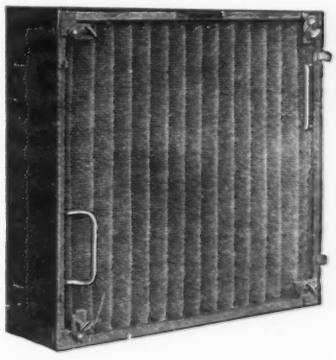
MULTI-PANEL Automatic Air Filter (right)

for industrial air cleaning where large volumes of air are to be conditioned and normal cleaning efficiency is adequate.

●



TYPE P-L Filter (right)
for smaller installations. Dry type, easily maintenanced and approved by Underwriters' Laboratories. Eliminates practically all dust and some smoke from the air.



AMERICAN AIR FILTER CO., INC.

Incorporated

729 Central Ave., Louisville, Ky.

AIR FILTRATION AAF DUST CONTROL

Getting Salesmen's Co-operation

Tying in Advertising with Selling

Getting out into the field

Copy Testing

DIRECT MAIL

Layout, Copy and Illustration

Market Information

contributing to the solution of general company problems

Readership of Publications

Measuring Results

ALLOCATION OF BUDGETS

Programs that management will approve

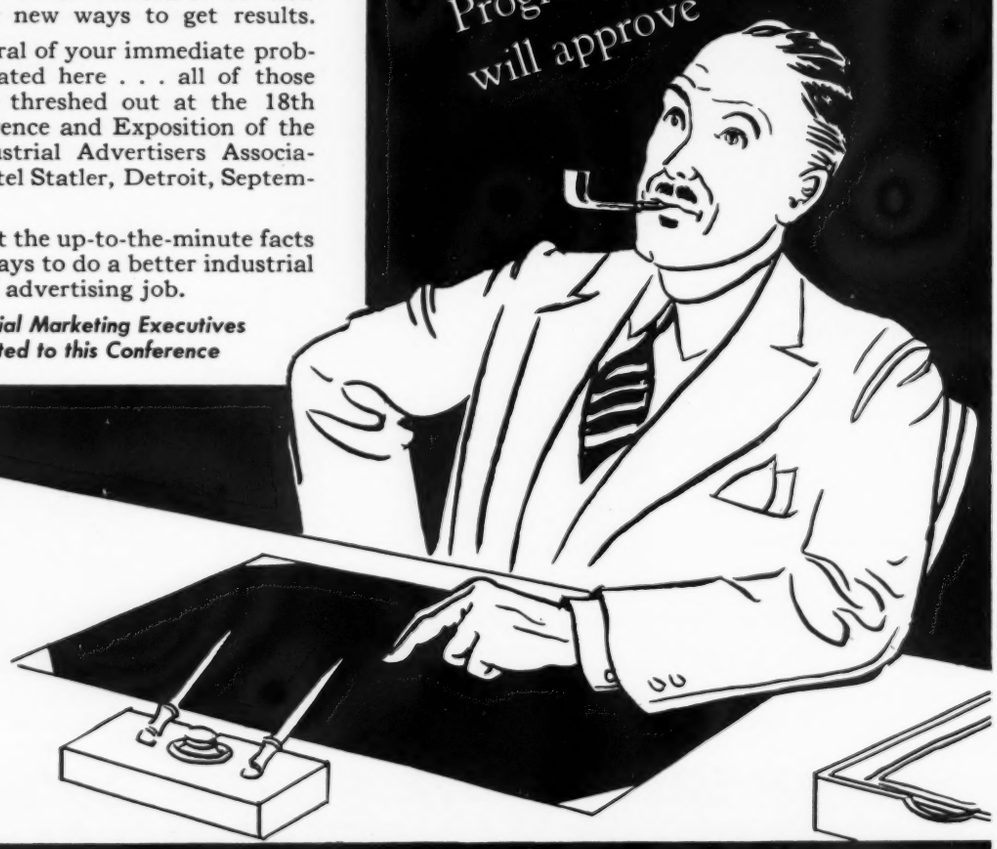
WHAT'S YOUR PROBLEM?

Your business . . . in at least one respect . . . is no different from others: *Your marketing problems are constantly changing.* You must ever be on the search for new ideas . . . for new ways to get results.

No doubt several of your immediate problems are indicated here . . . all of those shown will be threshed out at the 18th Annual Conference and Exposition of the National Industrial Advertisers Association, at the Hotel Statler, Detroit, September 18, 19, 20.

Plan now to get the up-to-the-minute facts on the latest ways to do a better industrial marketing and advertising job.

All Industrial Marketing Executives are Invited to this Conference



N I A A
NATIONAL INDUSTRIAL ADVERTISERS ASS'N.

1940 INDUSTRIAL ADVERTISING CONFERENCE

DETROIT . . . HOTEL STATLER . . . SEPTEMBER 18, 19, 20

NEW! 80-TON 3-ROLL HYDRAULIC CALENDER FOR RAYONS

Some of the Many Outstanding Features:

1. New style balanced let off.
2. Moulded fibre 3-bar adjustable tension device.
3. Extra strong feed-on roll.
4. Chilled iron roller designed for heavy duty.
5. Cotton roll of special mixture which gives the proper density.
6. All rolls are mounted in heavy duty roller bearings.
7. Bearings have circulating oil system which is filtered and cooled to the proper temperature.
8. Heavy duty brass air roll.
9. Special slip belt winder with clutch.
10. Balanced spreader roll with brass contact roll.
11. Drive: two-speed geared motor with roller chain to top roll.
12. Hydraulic pump—streamlined—totally enclosed.
13. New style accumulator with safety switches.
14. Special valves for control of hydraulic equipment.

H. W. BUTTERWORTH & SONS CO., PHILADELPHIA, PA.

Established 1820

PLANTS at PHILADELPHIA and BETHAYRES, PA.

New England Office:
TURK'S HEAD BUILDING
Providence, R. I.

Southern Office:
JOHNSTON BUILDING
Charlotte, N. C.

In Canada:
W. J. WESTAWAY CO.
Hamilton, Ontario

BUTTERWORTH *finishing* MACHINERY

COMPLETE LINE OF FINISHING AND RAYON MACHINERY FOR THE TEXTILE INDUSTRY

The SPUN RAYON ISSUE of "COTTON" for July ——

A few months ago the editors announced that a cross-index of more than 30 articles appearing in "Cotton" on spun rayon and cut staple fiber was available, and since that time several hundred copies of this index have been distributed. Requests for this index are still being received.

With the demand from readers for information on processing cut staple fiber increasing, the editors have for more than two months traveled to mills making spun rayon to get first-hand information on this subject. Mill men from the South and East have been interviewed, and the editors have been taken through many plants and shown the actual processing of rayon staple fiber.

The July issue will be devoted to a symposium on cut staple fiber and spun rayon, with manufacturing specifications being given for nearly 20 plants, from the time the bale is opened until the dyed and finished product is shipped to consumers. Such technical information as methods of blending, picker speeds and settings, card settings, and how the stock is processed in the drawing, roving, spinning, slashing, weaving and finishing operations will be included.

The July issue will be a book of manufacturing procedure on cut staple fiber and its blends—one that will be read, re-read and filed for reference.

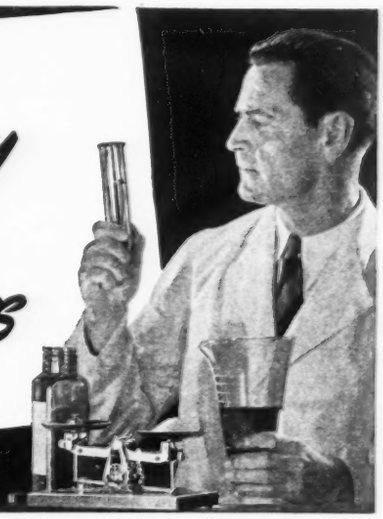
We will gladly send you, on request, an attractive booklet outlining briefly the history of spun rayon, consumption figures, a list of present users and describing in detail plans for the important July Spun Rayon Issue of COTTON.

Advertising forms close June 20th.

TEMPERED

COPYRIGHT 1940 THE DAYTON RUBBER MFG. CO.

This Revolutionary Process means LONGER LIFE and LOWER COSTS

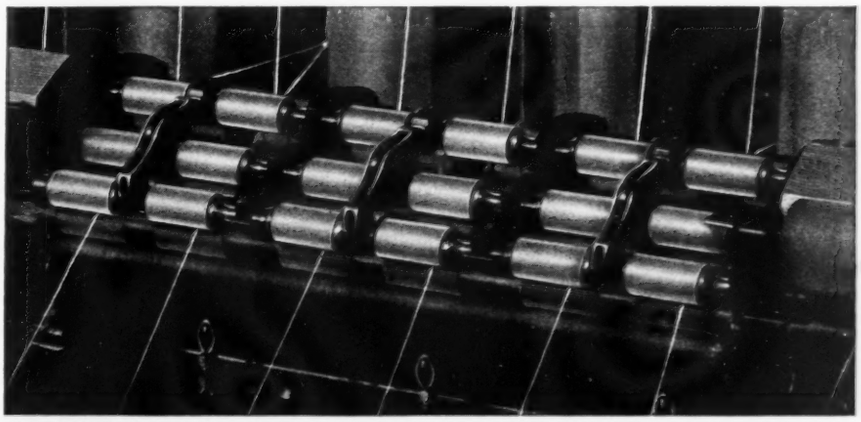


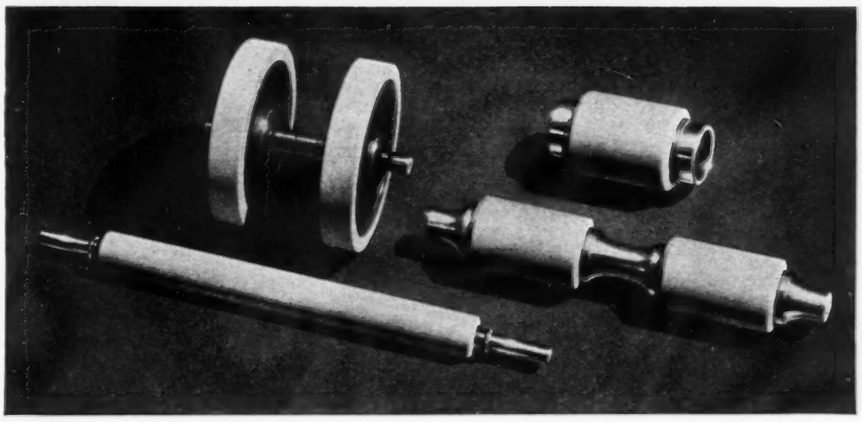
These Dayco Tempered Roll Coverings represent the finest product of skilled labor, modern equipment and quality materials. They set an entirely new standard of efficiency and economy. They have the proper coefficient of friction. Because they are vulcanized, they have no cold flow and are unaffected by temperature changes. Very resistant to oxidation and abrasion, they are static free and oil resisting.

Prove, in your own mill, the overwhelming advantages of these tempered Dayco Roll Covers. For details write to

THE DAYTON RUBBER MFG. CO.
TEXTILE PRODUCTS DIVISION, Dayton, Ohio
The Originators and Pioneers of Dayco Tempered Roll Covering

GREENVILLE SALES OFFICE
Room 702 Woodside Building
GREENVILLE, S. C.





CHECK AND PROVE FOR YOURSELF THESE OVERWHELMING ADVANTAGES OF DAYCO ROLL COVERING

1. Improved drafting.
2. Less ends down at all times.
3. Not affected by temperature changes.
4. Lower net roll costs.
5. Long service life.
6. Easy to apply.
7. Proper cushioning.
8. Unaffected by hard ends.
9. Static free.
10. Oil resisting.
11. One piece tubular construction.

Dayton

Dayco TEMPERED ROLL COVERING

AN ORIGINAL AND EXCLUSIVE DEVELOPMENT
SPECIFICALLY DESIGNED AND PROVED FOR THE SPINNING OF FINE YARNS
Made by the World's Largest Manufacturer of V-Belts

How'd you like to have

"MY PRIVATE SECRETARY"?

YOU can secure from COTTON a valuable and efficient secretary (though not quite as attractive as the one pictured above), in the form of a valuable book which is being widely acclaimed by textile men.

A long felt need of practically all textile executives and supervisors is filled in this new book "My Private Secretary," just produced by COTTON. This book, compiled by F. Gordon Cobb, contains a comprehensive set of mill calculations, constants, tables, etc., for which the mill man will find constant use, but its unique and striking feature is a section of forms, so designed that, when filled in by the user, will provide, in one pocket-size volume, a complete record of a man's mill or department, so that he can readily answer practically any question about his job.

Practically all textile men have much useful information which they wish to record, but, too frequently, one memorandum is left at the desk, another is at home, others cannot be located. "My Private Secretary" was designed to provide in one handy volume all of this desirable information, along with useful rules, tables, etc. The specially prepared forms are so designed that comparable records of several plants may be recorded, or these spaces used to indicate changes from one year to the next for a single plant.

Among the rules and information which the book, filled in, will contain, are the following:

1. The draft of any machine in the mill.
2. An easy way to figure all drafts for every machine in the mill.
3. A short method for obtaining the production of any machine in the mill.
4. The speed of any machine or part of any machine, such as r.p.m. of beaters, r.p.m. of card cylinders, card doffers, r.p.m. of front rolls, spindles, loom speeds, etc.
5. The twist gear, draft gear or lay gear on any of your machines.
6. How much roving or yarn there is on any bobbin, spool or beam.
7. The specifications of the different machines, such as the number of spindles and gauge, kind of machine, weight of product, etc.
8. The standard and actual twist, lays per inch, production and weight of all yarns compared.
9. A simple method of obtaining the actual number of yarns needed to produce a style of goods.
10. A quick method of getting loom production.
11. A quick method of getting spinning production or hanks.
12. A quick method of getting speeder, intermediate or slubber production.
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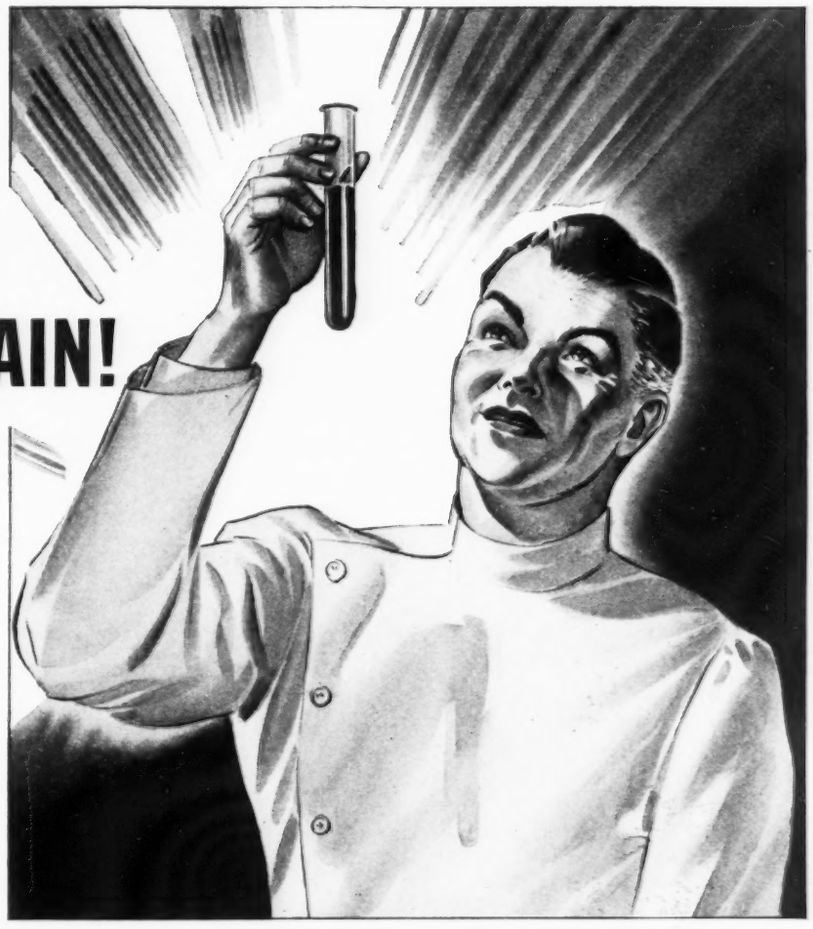

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SERVING THE
Textile Industries

JUNE, 1940
Vol. 104 No. 6

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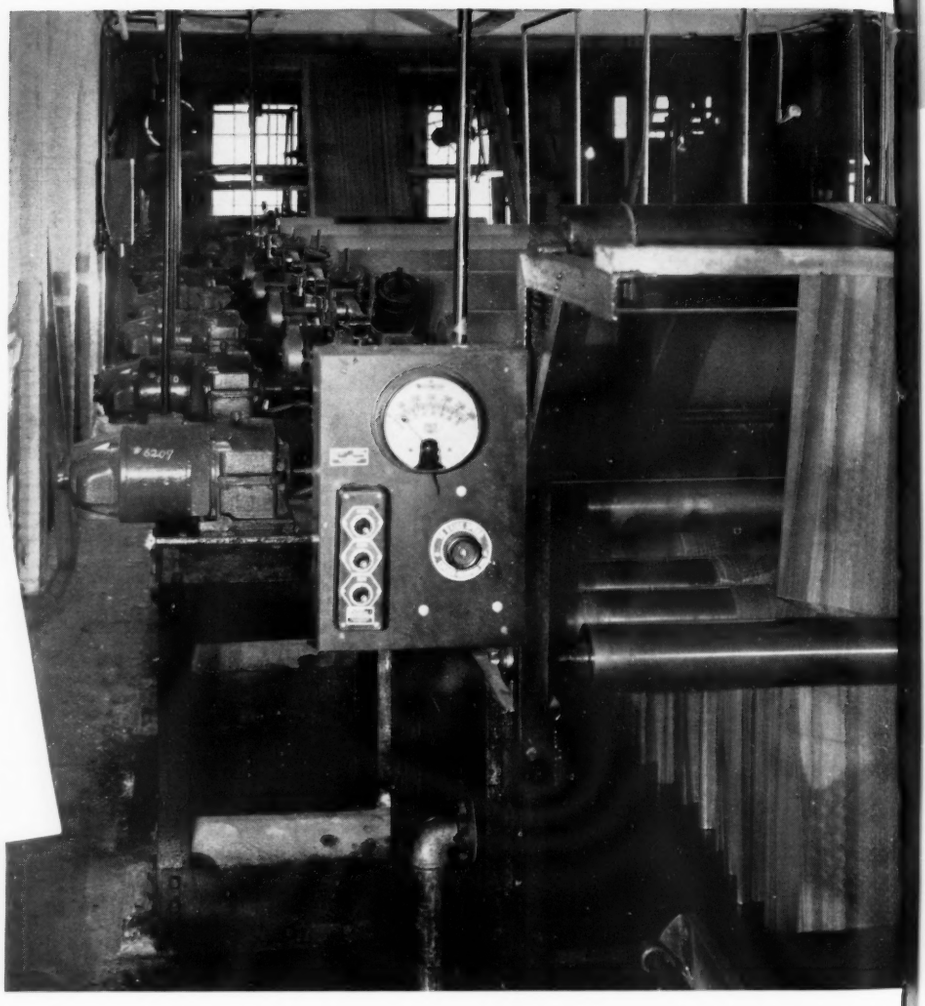

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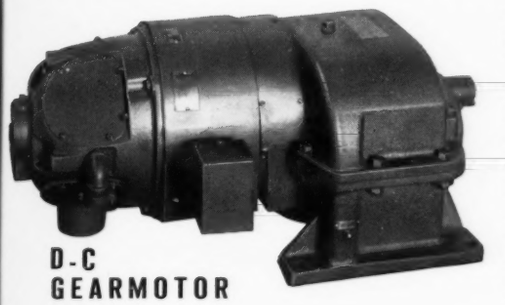

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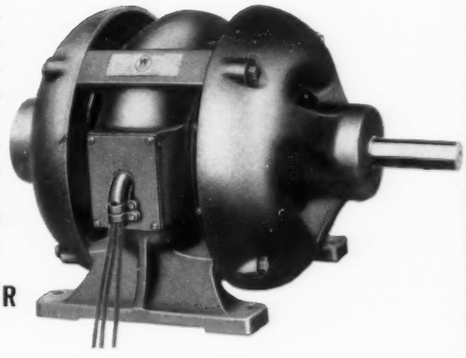

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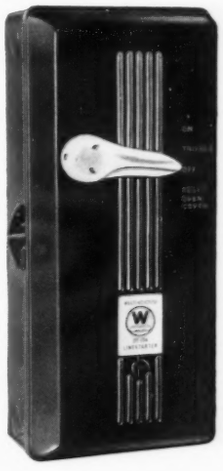

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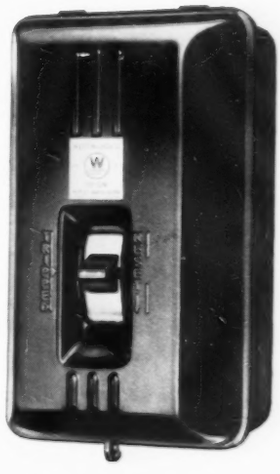

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SHORTS AND REMNANTS

More about the Spun Rayon Issue of "Cotton" in July

● As has been previously announced, the July issue of "Cotton (Serving the Textile Industries)" will be devoted to a symposium on rayon staple fiber and spun rayon. Inasmuch as the Shorts and Remnants page is devoted to reporting the inner-workings of the publication and its staff, we think it appropos that we tell our readers something more of what will be presented in the July number.

In the first place, "Cotton's" readers are the present and future manufacturers of spun rayon materials. In March 1940 over 160 southern cotton mills were using rayon staple fiber, either alone or in blend with other fibers. A circulation check showed that "Cotton" has executive or superintendent readers in over 95 per cent of these mills. It is therefore fitting that "Cotton" should present to its readers the first organized treatment of this important and fast growing fiber.

Mill men will read the July issue for it will present a complete organized story which starts with the material itself and traces it through the sequences of manufacturing. Actual manufacturing specifications from nearly 20 mills will be given, from the blending of the stock on through the various processes.

From an advertising standpoint the issue will be an excellent one for both the reader and the advertiser. Companies manufacturing equipment and supplies for use on rayon staple fiber and spun rayon will be afforded an opportunity to identify themselves as being set up to serve this new phase of textile manufacturing. Readers will regard the advertising section of the July issue as a reference volume for a majority of the leading companies serving the textile industry—particularly the mills processing rayon staple fiber—will use representative space.

The July issue will be a book of manufacturing procedure on cut staple fiber and its blends—one that will be read, re-read and filed for reference.

◆ ◆

Index of Articles Makes Textile Magazines More Valuable to This Man

THE EDITORS were sitting in their booth at the Philadelphia Knitting Arts Exhibition last April when a visitor dropped in and sat down.

"Want to see something," was the query. Editors always do.

The visitor opened his brief case and pulled out a loose-leaf notebook, with the comment, "I have here an index of more than 14,000 articles on textile subjects . . . and I have all of the magazines at home so that I can find any article in the list. For 11 years I have kept this index on the seven magazines that I subscribe to."

He then showed the editors how the index was kept. At the top of the page, in alphabetical order, were the various subjects, such as "Business Management", "Carding", "Spinning", "Weaving", "Finishing", "Knitting", etc. Each month as he reads the magazines, he indexes the articles under the proper subject head, and then files the magazine in case he wishes to look up an article.

Long ago he had tried the idea of clipping out the articles and pasting them in a notebook, but found two faults with this method. His notebooks became too large. And the article he wished to look up was usually pasted to the notebook paper, if there happened to be an article on the other side of it. So he adopted the index method.

His index also includes several hundred swatches of cloth with their specifications, and several hundred color combinations made from a book on color harmony. Besides this, he has indexed the numbers of the contributors to "Cotton", and can trace the original question and all answers to it.

It's a hobby with this man—but a hobby that has paid him dividends.

Materials Used in Finishing Cotton Piece Goods CM3/34/11
Rosins, Synthetic Rosins, Etc. in Finishing Cotton Piece Goods CM4/34/6
Use & Application of Enzymes in Finishing CM5/34/49
Use of Sulphonated Fatty Alcohols in Piece Dye Finishing CMo/34/12
Permanent Finishes (Heberlein Process CM/7/38/1
Permanent Finishes (Synthetic Resin-Alki-Soluble Cellulose Ester Methods 9/38/9
Finishing Yarn Dyed Fabrics TW2/39/16-3/39/81
Small Finishing Plants REP7/38/87
Processing Cotton/Rayon Fabrics REP8/38/64
A Good Belt Cement Formula CM9/33/47
New Compensating Belt CM12/32/58
Transmission Belts for Cotton Mill Drives CM12/33/65
Changing Long Draft Belts CM6/34/19
Loom Belt Information CM8/30/1159-1/31/257
How to Make Your Belts Earn Their Living CM9/36/12
To Find Length of Tightly Coiled Belt CM11/36/17
Pointer on Putting on a New Belt on Double Twisters TW2/37/16
How Do You Keep Belts Clean CM4/37/21
Formula for Belt Speed CM5/37/21
Formula for Care of New Belt TW2/38/130-8/39/106
Feed Plate Setting for Long Staple CM9/34/20
Various CM3/34/18-5/34/23-4/34/9
Card Setting for Long Staple CM5/34/26-6/34/38
Tests With Several Home-Made Long Draft Systems CM3/34/27
Sliver Goes Heavy When Card Speed Is Decreased CM5/34/20
Where Are the Long Card Draft Boys CM4/34/29
Licker-in Speeds & Card Drafts CM4/34/31-6/36/24
Card Setting on Staple Cotton CM4/34/31
Cleaning & Guarding Card Room Belts CM7/34/27
Checking Finisher Lap Weights CM7/34/33
High & Low Card Flats CM10/34/46-TW3/38/10
Why Feed Plate Setting Is Best CM1/34/64
Discussions on Carding CM1/35/15
Complete Catch Bar Analysis CM9/31/45
Stitch Formation & Sinkers CM11/37/47
Sinker Head & Knock Over Bar Analysis & Adjustments CM12/37/49
Jack Head & Slur Cam Analysis & Adjustments CM2/38/43
Adjusting Tension in Knitting CM3/38/45
Narrowing Machine Settings CM4/38/49
Coulier Motion Settings CMo/36/42
Care of Frictions, Shock Absorbers & Narrowing Head Assembly CM7/38/41
Shogging Assembly & Cam Shaft CM9/38/47
Helpful Kinks in Fixing & Summary of Adjustments CM12/38/109

Typical listings in the index of textile articles. "CM" means "Cotton".

While he was explaining his indexing system, several other persons stopped by to see it. One of them asked, "What magazine do you find most helpful?"

"Cotton", was the answer, "it goes more into detail!"

The answer pleased the editors. It must have—or this story would have ended three paragraphs sooner.

Below: Two of Our Staff at Some of the Recent Textile Conventions

At the Chattanooga Yarn Association golf tournament, **W. J. Rooke**, president of "**Cotton**" (left), is seen with **Walter Thompson**, sales manager of Torrington Company, just before joining their opponents. (See page 130 for other photographs of golfers in this tournament, and page 79 for other golfing groups at the Sea Island meeting.)

Our advertising manager plays golf with three mill men at the Georgia cotton manufacturers convention in Sea Island. Left to right: **Norman Elsas**, of Fulton Bag & Cotton Mills; **Gordon Dudley**, of Athens (Ga.) Mfg. Company; **Richard P. Smith**, of "**Cotton**"; and **Walter M. Wellman**, president, Oconee Mfg. Co.

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JUN 17 1940

COTTON
SERVING THE
Textile Industries

Vol. 104 June 1940 No. 6

A Crisis for America

FOR more than 150 years, all government in this country has been organized upon the principle that the state is the creation of the people, and is the servant of the people, who are the sole sovereign. Until the people voluntarily relinquish that sovereignty, no government may usurp it. The people always retain the right to change their government, and their form of government, as they may choose.

This concept of the state has given us a freedom of thought, speech and person that we have come to take for granted. It has brought us a freedom of individual action that has made us, as a nation, rich and productive. Most peoples seem incapable of self-government, and have turned their destinies over to a dictator to direct.

Now, dictatorship leads to tyranny and oppression as surely as a river leads to the sea. The very essence of dictatorship is the power to act without opposition. There is no such thing as benevolence in a dictatorship, except for the gang that backs the dictator. There is no way to get rid of a dictator except by revolution or assassination.

It took our ancestors centuries to wrest from a line of dictator-kings the privileges we enjoy under our republican form of government. We can lose them in an hour—and once lost, we may not regain our liberties for generations.

These privileges, so hard won, we must keep at all costs. There may be trying days ahead for us. If England and France are defeated in this war, we face a new world dominated by an organization which has pledged unending hatred of the democratic way of life, an organization dedicated to the proposition that the individual counts as nothing, and may be used or destroyed by the state at the whim of its leader.

What such an organization may try to do to the world is anybody's guess, but what it has already done to Norway, Poland, Austria, Czecho-Slovakia, Holland, Denmark, and Belgium we all know. A success-crazed victor might attempt a "blitzkrieg" against our country—crazy as that may sound.

We need to increase our navy and our air force, and, to a less degree, our army. We will probably have to adopt universal military training.

All of these things will put a strain on democracy. If we do not keep our heads, the strain may destroy it. For the past seven years we have been headed in the general direction of fascism; trying to regiment industry, commerce and agriculture to distribute our wealth among those who did not help to create it, as well as those who did. The chief net effect of this effort has been to run up a national debt which is about as high as we can afford it to be. Now we must spend more for the things we should have been providing these past years, but did not. Can we stand the strain under our traditional way of doing things, or must we turn to totalitarian ways?

Where Germany armed by lengthening hours of labor, and lowering the pay, shall our labor want a short week and a bigger pay envelope? Where Germany fixed prices, may we expect profiteering in national defense purchases? When we really begin to make planes and guns and tanks, how much will be aimlessly squandered, as in the last war? What will our pacifist organizations do in the face of national armaments? What may we expect of "fifth column" agents, who are undoubtedly plentiful?

These are serious questions—queer things to be thinking about in this country, but they need to be thought about. The more sound thinking that responsible persons can do in the next few months, the less danger our country and its institutions will be exposed to from hysterical, selfish and ill-considered action.

We have some grave decisions to make in this crisis. For at least two generations, responsible citizens have too generally been too immersed in their own affairs to take much active interest in public matters. In times of crisis, the best efforts of our best citizens must be directed to the molding of public opinion and the discharge of the public business.

If Life, Liberty and the Pursuit of Happiness were worth fighting and dying to get, they are worth an equal sacrifice to keep.

Good counsel, at the start of any emergency, is to keep our heads, and be fully aware of what we have to gain or lose by a course of action.

REPORT ON LONG DRAFT SPINDLES AND TAPE-DRIVEN SPINDLES

Showing Number and Percentage of Spindles, in States Named, Equipped with Long Draft and Regular Draft, and Number and Percentage of Each Equipped with Band- and Tape-Drive

By Robert W. Philip, Editor of COTTON (Serving the Textile Industries), Atlanta, Ga.

Compiled, May 13, 1940, on returns from questionnaires mailed on March 11 and May 1, 1940 to all cotton-textile mills with spinning spindles in states named. All figures adjusted to 100 per cent for each state on basis of percentage of returns from each state

STATE	TOTAL SPINDLES		According to Drive				According to Draft			
	Per Cent Replying	In Place (*)	BAND Spindles	%	TAPE Spindles	%	LONG Spindles	%	REGULAR Spindles	%
Alabama	83	1,821,026	744,578	41	1,076,448	59	1,241,270	68	579,756	32
Georgia	85	3,219,920	1,392,114	43	1,827,806	57	2,278,986	71	940,934	29
North Carolina	67	5,850,168	2,389,308	41	3,460,860	59	2,585,536	44	3,264,632	56
South Carolina	79	5,580,776	3,278,298	59	2,302,478	41	2,824,148	51	2,756,628	49
Tennessee	93	552,748	177,306	32	375,442	68	293,608	53	259,140	47
Texas	80	236,002	111,570	47	124,432	53	84,722	36	151,280	64
Other States (**)	58	1,733,276	857,392	49	875,884	51	663,668	38	1,069,608	62
TOTALS(***)	75	18,993,916	8,950,566	47	10,043,350	53	9,971,938	53	9,021,978	47

STATE	BAND-DRIVEN SPINDLES				TAPE-DRIVEN SPINDLES			
	Long Draft Spindles	%	Regular Draft Spindles	%	Long Draft Spindles	%	Regular Draft Spindles	%
Alabama	410,558	55	334,020	45	830,712	77	245,736	23
Georgia	585,240	42	806,874	58	1,693,746	93	134,060	7
North Carolina	504,670	21	1,884,638	79	2,080,866	60	1,379,994	40
South Carolina	899,246	27	2,379,052	73	1,924,902	84	377,576	16
Tennessee	77,194	44	100,112	56	216,414	58	159,028	42
Texas	23,636	21	87,934	79	61,086	49	63,346	51
Other States (**)	130,196	15	727,196	85	533,472	61	342,412	39
TOTALS(***)	2,630,740	29	6,319,826	71	7,341,198	73	2,702,152	27

(*) Based on report of Bureau of the Census, Department of Commerce, for February 29, 1940

(**) Consisting of Arkansas, California, Illinois, Indiana, Kentucky, Louisiana, Maryland, Michigan, Mississippi, New Jersey, New York, Oklahoma, Pennsylvania and Virginia. Grouped here to avoid disclosing operations of individual plants.

(***)Totals for United States, except New England States of Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island and Vermont.

A Survey of Long-Draft and Tape-Drive Spinning

The first authentic, comprehensive analysis revealing the extent to which the mills have adopted long draft and tape drive on spinning

By Robert W. Philip
Editor of "Cotton"

IN ORDER to determine to what extent the cotton-textile industry has adopted long-draft spinning, and tape-drive on spinning frames, I have just conducted a survey with the results shown in the table on the preceding page.

At the instance of several manufacturers of spinning machinery, who prompted the survey, our study covered the cotton-textile mills of the entire United States, with the exception of the six New England States, which are being covered in another survey.

On February 29, 1940, according to the official figures of the Bureau of Census, there were in place in the United States 24,985,580 spinning spindles. Of this total, there were 5,991,654 spindles in the New England States of Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, and Vermont, leaving a total of 18,993,916 spindles in place in the states covered by our survey.

Our questionnaire was sent to the mills containing these 18,993,916 spindles, and we received replies from 14,271,422 spindles, or 75 per cent of the total. The percentage of return, in each of the states, is shown in the table.

53% on Long Draft

Everyone with whom I consulted on the subject agreed that figures from 75 per cent of the spindles in place gives an accurate picture of the situation as a whole. Accordingly, we have, in the table, adjusted each figure in the report up to 100 per cent. I do not believe that even an additional 15 per cent return on the questionnaire would change materially any of the percentages shown.

Of major interest in the report is the revelation that of the 18,993,916 spindles in the territory surveyed, 9,971,938, or 53 per cent of the total, are operating on long-draft. (This term refers to all types of long-draft mechanisms, including the belt- or apron-type, the 4-roll system, etc. This leaves 9,021,978, or the remaining 47 per cent, still on 3-roll type of drafting.)

The report also discloses that slightly in excess of 10,000,000 spindles are equipped with tape-drive.

An analysis of the figures on long-draft spindles discloses several interesting points. One calculation, not included in the table itself, is the percentage of the total amount of long-draft that each of the states covered has. This computation shows that of the 9,971,938 spindles now on long-draft in these states, Alabama has 12.45 per cent, Georgia has 22.85 per cent, North Carolina has 25.93 per cent, South Carolina has 28.32 per cent, Tennessee has 2.94 per cent, Texas has .85 per cent and all the other states surveyed have 6.66 per cent.

Looking at the column showing the percentage of the total spindles in each state that have been applied to long-draft, we find that Georgia leads with 71 per cent of her spindles now on long-draft; Alabama is second with 68 per cent of her spindles; Tennessee is third with 53 per cent; South Carolina is fourth with 51 per cent; and North Carolina fifth with 44 per cent of her total spindles on long-draft. Several qualified men who saw the figures in process of preparation, noting the low percentage of North Carolina's spindles on long-draft, made the observation that North Carolina contains a great many sale yarn mills which, with the long staple cotton used for fine numbers, and for other reasons, achieve adequate drafts with 3-roll systems, usually including a self-weighted middle roller. In the tabulation, however, it was necessary to consider such equipment as 3-roll drafting.

Band and Tape Drive

The lower part of the table takes the band-driven spindles and shows, by states, the number and percentage of the total that have been applied to long-draft, and those remaining on regular draft. The adjoining columns show the same breakdown for the tape-driven spindles. These figures are interesting, in one respect, as showing that of the total of 8,950,566 band-driven spindles, 2,630,740, or 29 per cent, are equipped with long-draft mechanisms. Inasmuch as there have been practically no band-driven spindles installed since the ad-

This bar chart, made from the survey report on the preceding page, shows what percentage of the total number of long draft spindles in place in the states covered is located in each of the states named . . .

vent of long-draft spinning, it is a safe assumption that practically all of these 2,630,740 band-driven spindles equipped with long-draft represent "change-over jobs."

It will be noted that of the total of 10,043,350 tape-driven spindles in the territory surveyed, 7,341,198, or 73 per cent, are equipped with long-draft. It is not possible to determine accurately at this time how many of these are on new spinning frames with long-draft equipment, and how many are "change-over jobs". It is interesting to note, though, that in the case of Georgia, 93 per cent of the spindles in this state that are tape-driven are also equipped with long-draft. A large proportion of the new mills erected during the past 10 or 15 years were located in Georgia, which would substantiate the conclusion that most of these frames, when originally installed, were tape-drive with long-draft mechanisms.

Our purpose here primarily is to make available to the industry this report of existing conditions. There are a great many interesting conclusions and interpretations possible from a careful detailed study of these figures. Broadly speaking, the major fact disclosed is that at the present 53 per cent of the spinning equipment of the portion of the industry surveyed is equipped with long-draft mechanisms, and practically the same number of spindles are equipped with tape-drive. These items were selected for the survey because they indicate modernization. Tape-drive on spinning has been commercially available for approximately 25 years, and long-draft mechanisms have been available for approximately 15 years—certainly for no longer a period than that—so that every spindle with these forms of modern equipment has been so equipped within the periods indicated.

It was of course my privilege to analyze the individual reports from individual mills, and obviously I am not disclosing any of these. This study, however, indicated to me that in many specific instances, mills have already put all of their equipment onto long draft and tape-drive, either in the form of brand-new frames so equipped, or as "change-overs". In other instances, mills with the major portion of their spinning already on tape-drive and long-draft, reported some spindles band-driven with regular draft. In a great many instances we know that the reason is that the frames in such cases are not considered worthy of changing over to long-draft and so the mills are leaving them with their original equipment of band-drive and regular draft until the opportune time for replacing them with modern tape-driven long-draft frames.

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New Weave Room at Drayton

Spartanburg mill installs new rayon looms in air-conditioned room; each loom is served by one fluorescent lighting unit

DRAYTON MILLS, Spartanburg, S. C., have recently completed the installation of 180 new Draper XD looms, this equipment being placed in a separate weave room especially prepared for giving the very best conditions for the weaving of high-grade rayon fabrics. Special features in connection with the installation make it one of the most modern weave rooms in the industry and information regarding same will no doubt be of general interest to the trade.

Details of Construction

Space for this weave room was available in the lower part of the present weave building, where a high ceiling height, large windows of northern exposure, and other conditions make a particularly suitable place for this purpose. The room is 330 feet long by 50 feet wide running east and west with clear glass windows on the north side. The outside wall is of brick with steel sash and the inside framing consists of steel I-beams and steel columns. A wood partition separates the weave room from the adjacent areas.

Solid Loom Foundations

The 44-inch individually driven looms are placed on a heavy wooden floor resting on earth. The construction of this floor consists of a layer of tar concrete on top of which is a heavy creosoted plank sub-floor, a 1-inch intermediate floor of creosoted boards, and a 1-inch maple top floor. This solid floor to which the looms are securely fastened results in a minimum of vibration in the operation of the looms, this being an important factor in quality weaving.

The Air-Conditioning System

A special feature of this weave room is a central station air-conditioning unit installed by the Carrier Corporation. This air-conditioning equipment is designed to maintain uniform temperature and humidity conditions in the room and will have a decided cooling effect during the hot summer months. This will give better working conditions for the employees and provide uniform control of temperature and humidity, which is important in the production of rayon fabrics. Also the system will furnish fresh, clean air to the room, as the air, before going to the room, is passed through a spray of water for the removal of dirt and for-

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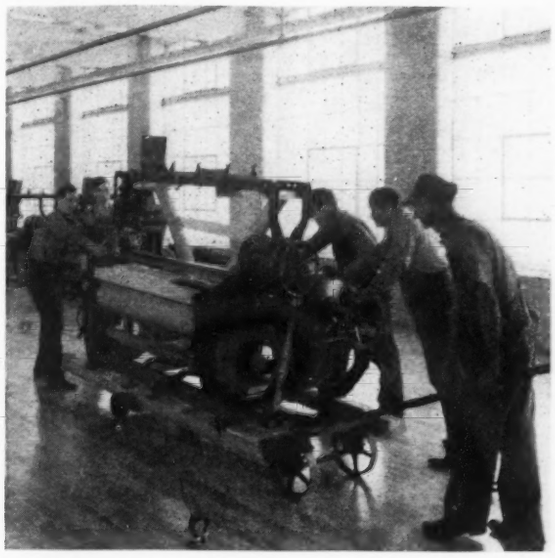
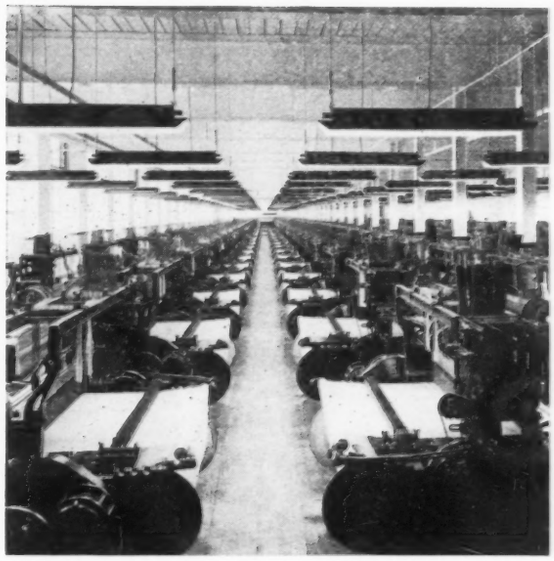
Description by John C. Fonville of "Cotton".



Robert Draper (extreme left) installing one of the new XD looms at Drayton Mills. Robert is the great-great-grandson of the founder of Draper Corporation . . .



A view down a warp alley in the new Drayton weave room. The individual motors are each of one horsepower capacity, and are G. E. loom motors . . . .

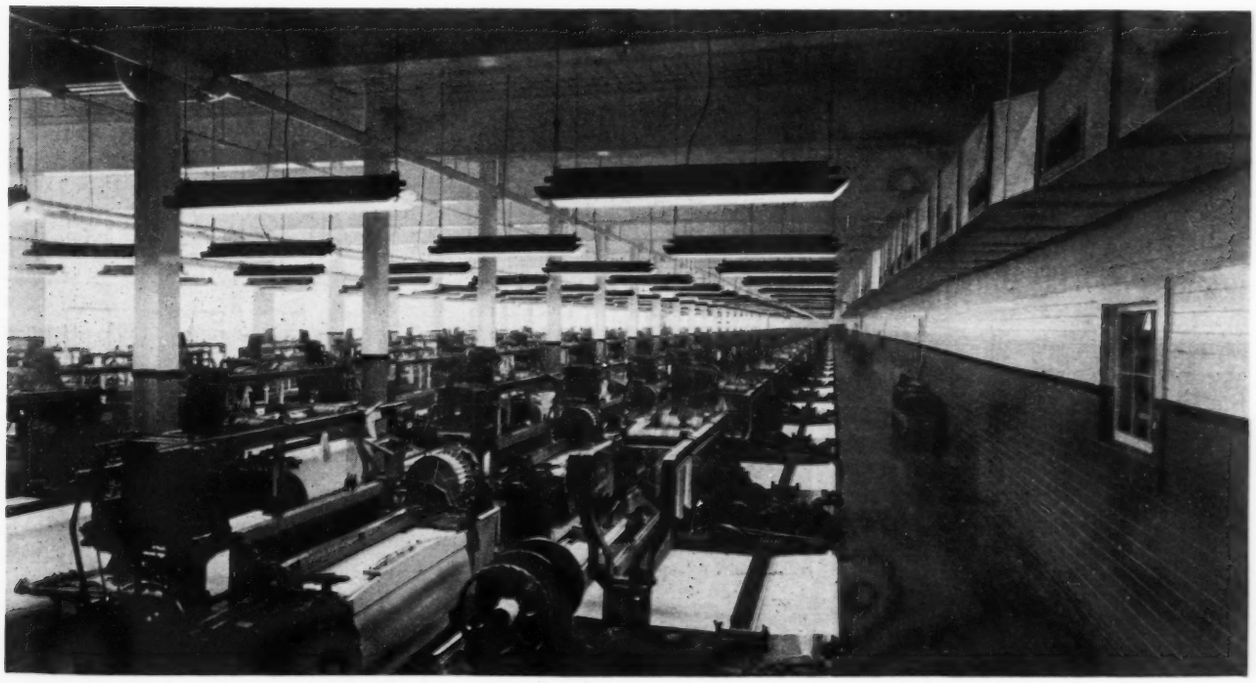
eign matter. The room being long and narrow provided opportunity for placing one long duct along the inside wall of the room and obviated the necessity of running ducts crosswise of the room. There is no supplementary humidification in this room.

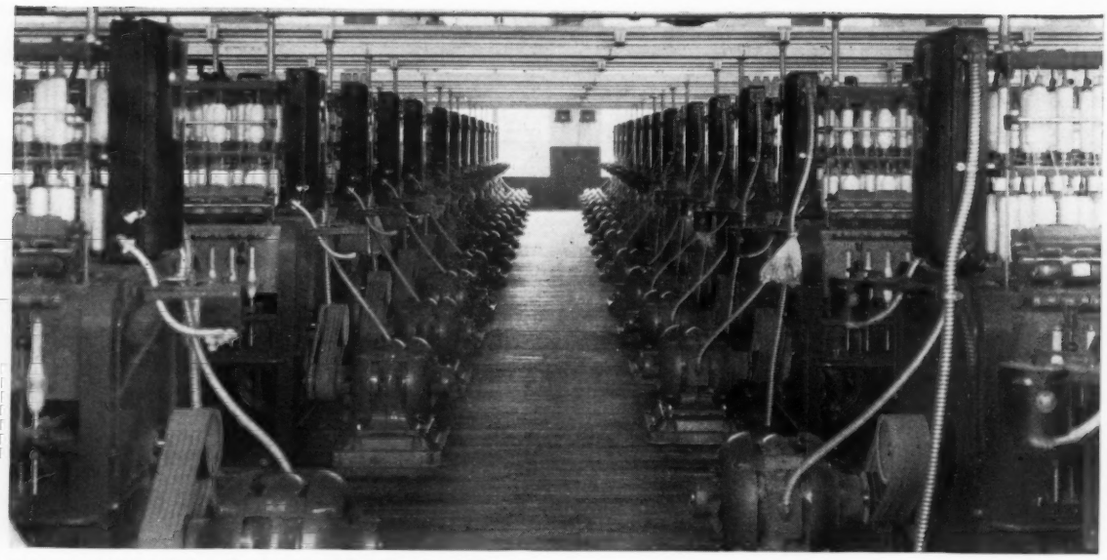
The lighting installation is another special feature and consists of the latest type of Hygrade-Sylvania fluorescent lamps, the units consisting of two 48-inch tubes, one lighting unit for each loom. The lamps used in this installation give an excellent quality of light for weaving purposes with the added advantage of producing less heat and also using less current than the corresponding sizes of incandescent lamps. There is said to be no stroboscopic effect and the management reports satisfaction with the lighting arrangement.

Drayton Mills has a total of 44,800 spindles and 1610 looms. It is a fancy goods mill making various types of cotton, filament rayon, and spun rayon cloths.

Photo at upper left, courtesy Draper Corporation; other photos made exclusively for "Cotton" by Alfred T. Willis, Spartanburg

The new weave room at the Drayton Mills, Spartanburg, S. C. These looms are running filament rayon. There is one air conditioning duct, shown at the upper right; no supplementary humidification. Each loom has a double-tube fluorescent lamp above it . . .





Photos made exclusively for "Cotton" by Paul Robertson, Atlanta.

View down a motor aisle in No. 1 spinning room, where the coarser numbers are run. The Westinghouse motors are 10 hp. on these large package spinning frames. Creel type overhead cleaners are used . . . . . .

Modernization at Piedmont

New large-package spinning and long draft roving feature improvement program at Standard-Coosa-Thatcher plant

IN KEEPING with the company policy of maintaining and equipping its several plants in an up-to-date manner, Standard-Coosa-Thatcher Company has had under way for some time a program of modernization at its Piedmont, Ala., plant. The primary purpose of the recent program has been to secure a larger package in all departments to insure a better sales yarn product, but electrical equipment, air conditioning, card room equipment, winding, and machinery arrangement for standardization have fallen under the spell of modernization. And it is worthy of note that in each instance of a change the health and comfort of the operatives has been taken into consideration.

Spinning Rooms

The spinning at Piedmont is located in two rooms, a result of the mill's having been added to from time to time. However, prior to the modernization program, counts from 30s to 80s were spun in both rooms, and while this was a disadvantage from the standpoint of standardization, the management wished to arrange the room so that all of the counts could be spun on as large a package as possible and those within the same range be spun in one room. This necessitated the complete rearrangement of the two spinning rooms, and the purchase of additional spinning equipment. (Long draft roving machinery was also installed to balance production of additional spindles and to take care of coarser numbers on spinning frames at a saving in manufacturing cost.)

Comparative size of old and new spinning package. New package at left contains about twice as much yarn . . . .

Before the rearrangement of machinery, No. 2 spinning room had a number of band drive frames and part of the room was on narrow gauge frames. The frames were laid out cross-ways of the room and were driven by old-fashioned bicycle drive. In the modernization, all of the band-driven spindles were junked.

No. 2 spinning room now has the machinery individually driven, and is all tape drive. The frames are arranged lengthways of the room which provides wider alleys and the elimination of narrow post alleys. This room, located on

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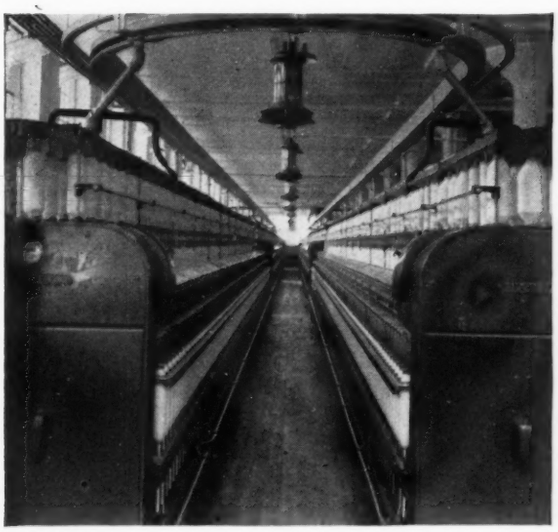
Description by John C. Fonville of "Cotton".



Spinners' alley in No. 1 spinning room, showing some of the new frames. Guard rail protects frame from damage by doff boxes . . . . . .

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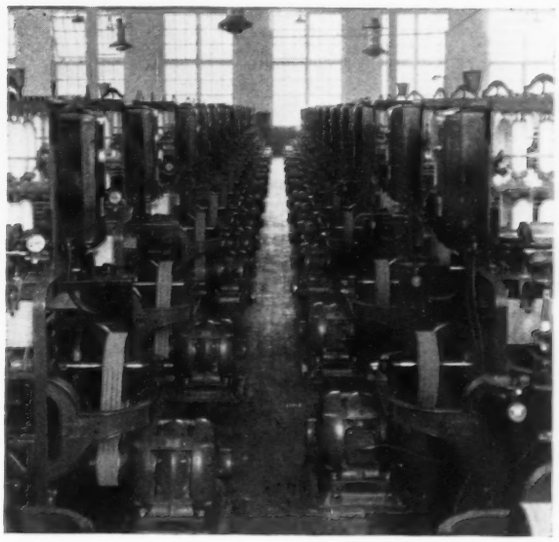
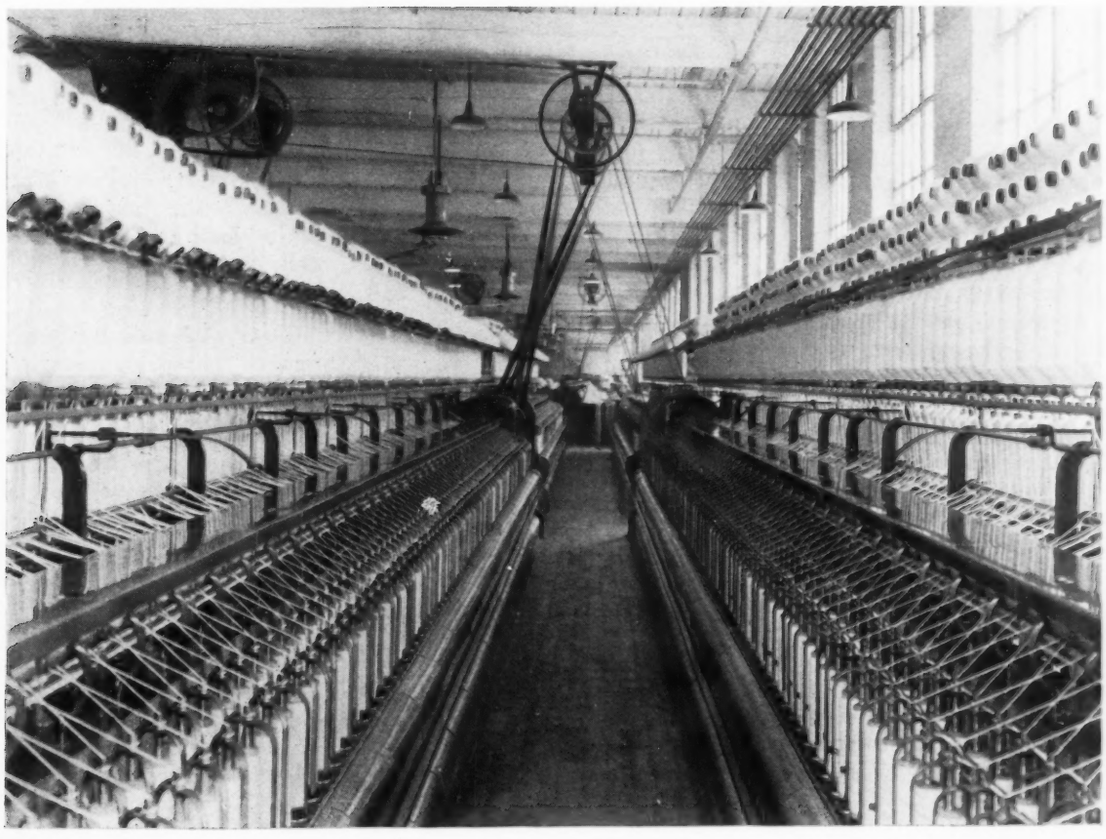
Motor alley in No. 2 spinning room, where finer counts are made. These motors are 5 hp., and like those in No. 1 spinning, are equipped with multiple v-belt drive. Air conditioning of central station type will soon be installed in this room at Piedmont.





Part of the new long draft roving frames, 176 spindles each, driven from group drive arrangement installed at the Piedmont plant . . . . . .

Part of the battery of 13 winders at Piedmont. These machines are designed to make several types of packages

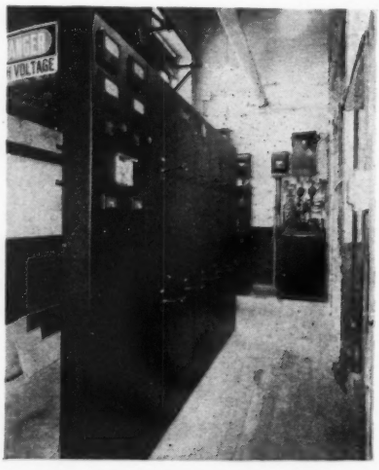
the second floor, will soon be equipped with a central station type of air conditioning which will take care of an outside dry bulb temperature of 98 degrees and outside wet bulb temperature of 76, and will hold the inside temperature at 91 degrees dry at a relative humidity of 58 per cent. Ducts will run cross-ways the room. Counts from 50s to 80s are now run in No. 2. The present equipment consists of 64 frames of 1¾-inch rings with 7-inch traverse (frames moved from No. 1 spinning), 48 frames of 1⅝-inch rings 7-inch traverse (left after junking of band-driven equipment), and 16 new H & B frames, making a total of 128 frames in No. 2 spinning. All spinning is of the English system of drafting, with a heavy back steel top roll, self-weighted wooden middle roll, and regular front roll.

The 64 frames moved from No. 1 to No. 2 spinning were cut in two, skidded out the far end of the building, hoisted into No. 2 by a specially built elevator, and skidded into place. Eight frames per day were moved, and not an accident occurred during the entire moving process.

Just as soon as the 64 frames were moved from No. 1, which is on the first floor, the space was filled with 48 new H & B 3½-inch gauge, 2-inch ring, 8¾-inch traverse frames, also on the English system. No. 1 spinning handles the coarser counts of yarns, up to 45s. There are a total of 112 frames in this room, the 48 new frames and 64 Fales & Jenks of 3¼-inch gauge, 1¾-inch ring, and 7-inch traverse, all of which are tape-drive and all individual-motor driven. The 64 frames remaining in No. 1 are cleaned by traveling overhead cleaners of the ceiling suspended type and inasmuch as the 48 new frames have a higher creel to take a larger roving package, the creel type overhead cleaner is used. The speeds of the cleaners are adjusted for the particular numbers run and for the type of cotton in use. Lighting throughout the mill is incandescent.

Features of New Spinning

As stated previously, all spinning is on the English system of drafting. Other features of the new spinning frames are as follows: ball bearing cylinder; large reservoir oil base; extra heavy gravity spindle, base and bolster; baffle plates to keep dirt and lint out of yarn; traversing thread boards; guard rails to prevent doff boxes butting rail; ring holders of cast iron type but made of special alloy that is lighter and stronger; hank clocks on headend of all frames; ¾-inch chromium-plated roving rods to prevent roving stretching; and eight of the new frames have the adjustable feature of making either "S" or "Z" twist simply by reversing motor and jack gear. No separators are used on any frames in the mill. Spinning frames on fine counts are run by 5 hp multiple v-belt drive and the newer frames on coarse counts take the 10 hp multiple v-belt and Westinghouse motor; each frame has a De-ion line-starter.



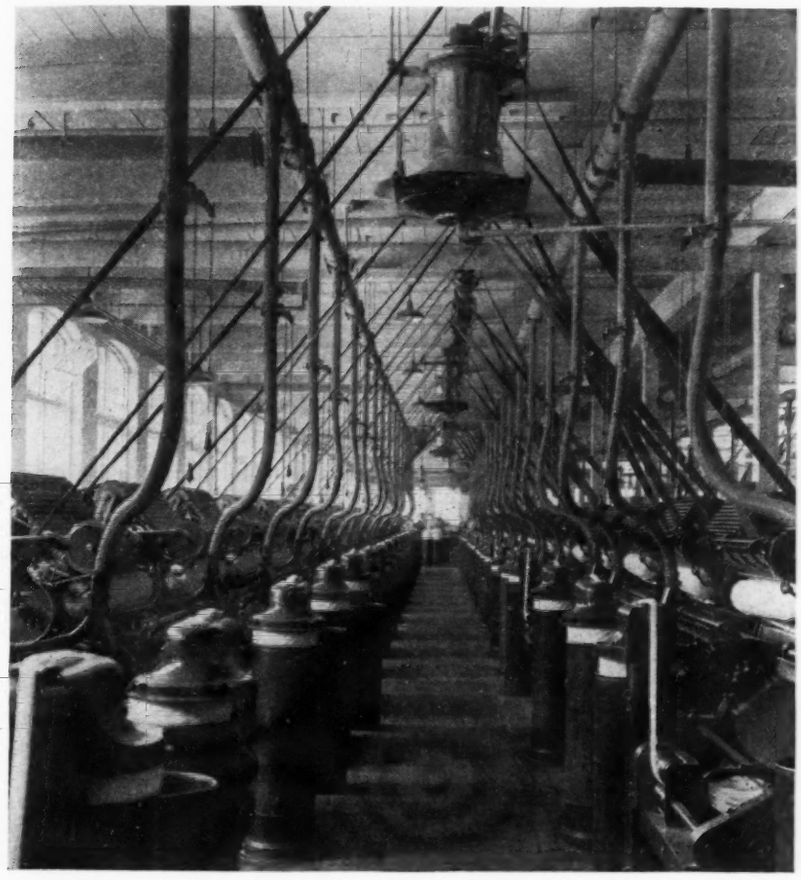
Officials at Piedmont are proud of this new switchboard, which requires much less floor space than the former arrangement. The substation supplying the mill is just outside the wall at the left in this picture.

Vacuum System

An Abington vacuum stripping system has been applied to the cards, which is a great time-saver and also eliminates much lint and fly in the room, which is advantageous from a health standpoint. The stripper gives high stripping of the cylinder and doffer simply by opening a valve. It is also used to take out comber noils, flat strips, picker motes, and card fly.

Long Draft Roving

To take care of the coarser counts, run on the 48 new spinning frames, 16 new H & B 8x4-inch 5-roll 176-spindle long-draft speeders are being installed. These are creeled with 11x5½-



Stripping device on cards at Piedmont. It is also used to dispose of comber noils, motes, card strips, etc. . . . . . .

inch slubber roving, and replace 8x4 coarse rovers and 7x3½ speeders. The new frames have the 4-frame group drive.

The winder room has been equipped with a battery of 13 Universal No. 44 Roto-Coners of 120 spindles each. These machines will wind single and ply yarn on paper cones for finished trade, wooden cones for continuous warper creels, dye springs, shells and finished tubes. The warper room has been equipped with the continuous creels to handle 5-pound packages, the yarn being tied heel-to-toe.

Further Modernization

A new Westinghouse switchboard of the latest type has been installed and gives quite a saving in floor space. The substation is directly adjacent the switchboard, which is helpful both from a service and power-cost standpoint.

Other features of modernization are International time clocks that are located in each department, with secondary clocks located at convenient places throughout the plant; and a new shed for the loading platform so that goods may be loaded if bad weather prevails.

Among other equipment in the modernly-equipped laboratory is a roll spacing determinator to check roll settings when changing staple or type of cotton.

At Piedmont the machinery is painted every six years and the building every five years. The processes follow in straight line production, with no back-tracking.

This mill of Standard-Coosa-Thatcher is an outstanding example of well-planned maintenance, and machinery arrangement.

Southern Textile Ass'n Meets at Greensboro

The Northern North Carolina-Virginia Division of the Southern Textile Association held its regular spring meeting at the Y. M. C. A. of the White Oak Mill of Proximity Manufacturing Company, Greensboro, N. C., Saturday morning, May 11.

The feature of the meeting was an address on the subject of human relations by W. M. McLaurine, secretary, American Cotton Manufacturers Association.

Following Mr. McLaurine's address there was a brief technical discussion on fluidity of starch, type of filling forks to use on various fabrics, and methods of burling and inspecting grey goods for piece dyeing.

The following officers were elected for the ensuing year: J. R. Copland, Virginia Mills, Inc., Swepsonville, N. C., chairman; T. C. Pegram, Erwin Cotton Mills Company, Cooleemee, N. C., vice-chairman; J. O. Thomas, Marshall Field & Co., Spray, N. C., secretary (reelected); and R. H. Armfield, White Oak Mill, Greensboro, N. C., member of executive committee for three year term.

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Finance Plan Adopted by National Cotton Council

The finance plan of the National Cotton Council for the crop year 1940-41 has been adopted by the board of directors. A completely revised system will be used in a drive to raise $500,000 for the Council's cotton and cottonseed promotions. Expenses of the Council's activities will be borne by the five cotton interests, producers, ginners, merchants, warehousemen and crushers. Producers will pay membership dues at rate of five cents per bale. Ginners will pay two cents per ton of cottonseed ginned. Merchants and warehousemen will contribute by service of collecting, remitting and keeping records and will pay special dues on cotton for which they do not perform this service.

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Correction

TWO mistakes by the printer after correct proofs had been released resulted in serious errors in the article, "A Survey of Textile Education in the United States", occupying pages 58, 59 and 60 of the May issue of COTTON.

In Table I on page 58, the name "Clemson . . . " should have appeared in the space immediately below "N. C. State . . . ", as the figures in that horizontal column refer to Clemson.

On page 60, the four lines appearing at the top of the second column should appear at the bottom of that column.

With these changes, the article reads correctly. We apologize for these errors, and trust that any readers who were confused by them will notice this correction and make the necessary changes.—The Editors.

Preparing Warp and Filling for Duck Looms

By John Middleton

(Article Three *)

ALL THROUGH the mill there must be some sort of system of marking the roving, the single yarns, the ply yarns (warp and filling) the warps, the quilled filling and of course the cloth, otherwise there would be no way of preventing mix-ups. The system in the card room may be very simple, consisting of painting the ends of the roving bobbins different colors to identify the various rovings. In the spooler room the yarn may be tagged or if double-head spools are used they may be painted with different colors and stripes to indicate the several kinds of yarn.

Identifying Yarns

Yarn leaving the twister room should be tagged very carefully, showing the number and ply of the yarn, the length and the number of frame on which the yarn was made, initialed by the person responsible for the length, either the frame hand or a special length man. These tags will stay with this particular doff of yarn until run out in the warper or beamer, so that any error can be traced to its source.

In the beaming room the system of identification becomes more elaborate, requiring closer attention to details. In some mills every set that is run has a number; this may be called a serial number or a set number, and the numbers may run from one to five thousand. This serial number is placed on every warp in the set, and in the weave room this number is put on every roll of the fabric, and a final record is made on the cloth room books. In this way it is possible to trace any particular set of warps from the beamers, through the weave room and on to the cloth room.

A record should also be kept in the beaming room office of each set that is run, properly identified by the serial or set number, and with such data as may seem advisable to be kept. One will be surprised as to the value of such a record when similar fabrics are to be made after several months or years later. Besides the serial or set number and the style and width of the fabric, we think that record should be made of the yarn, the number of ends, the warp length, the length of the yarn as made on the twisters, the weights used on the beamers, the runout at the beamer and the loom beam on which the warps were run. This record may be kept day by day as the warps are run, and we will explain more in detail in a subsequent paragraph how these data may be obtained. This daily record may be of use in obtaining pay roll and cost data.

Inspecting yarn before creeling

Style Records

Another record that might be kept in this connection is according to style. This would facilitate finding the date a certain set was beamed. For example, a loose leaf book might be provided with a page or as many pages as necessary, for each style. Then if an order was received for style X-19, it would only be necessary to look up the page carrying this style and note the beaming date and the set number of the last set of this style that had been beamed. Then going to the daily beaming record, complete information as to how the previous set was beamed could be found.

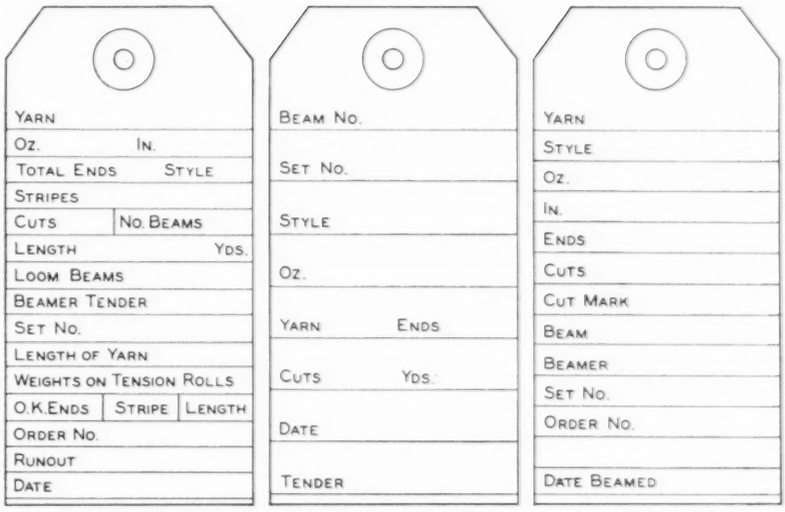
In the case of fabrics made according to specifications which allow only a small tolerance in the length of the rolls, this beaming record is of especial value. Of course it is usually possible to run the rolls the full length and let the cloth room cut them off, but this is expensive to the mill, and will not ordinarily be tolerated. After a set has been run and some of the fabric woven, then the cloth room books should be checked and the beaming lengths corrected, if necessary.

Record System Explained

One method that might be used for obtaining the data for these records would call for the overseer of beaming or one of his assistants to make all of the warping and beam-

*The series began in the March 1940 issue, was continued in the April issue. Article Four, to appear in an early issue, will complete the series.

ing tickets in the office. A master ticket as shown in Fig. 1 would be made, sometimes called the set ticket, the serial number having been stamped on these tickets in advance to prevent duplication of numbers. This ticket should contain all information necessary to beam the set correctly, and should have space for initialing by those checking the creels, etc., and space for the names or numbers of employees working on the set. In the case of sets going through the warpers a ticket as shown in Fig. 2 might be made for each section beam, each carrying a record of the number of ends, the yarn, the length and any other necessary information. When the sets are ready to be beamed a tag, as illustrated in Fig. 3 could be made for each warp that will go to the weave room, this tag containing such data as are required by the weaving department, including the serial or set number.



MASTER SET TICKET
FIG. 1

SECTION BEAM TICKET
FIG. 2

WARP TICKET
FIG. 3

After the set has been beamed and the last warp taken off the beamer, a record should be made as to the amount of the creel, that is, the number of yards long or short. Then the set ticket is returned to the office where a permanent record is made as has already been described. It might be found advisable, also, to keep the set tickets for several years. By keeping these tickets it is not necessary to copy all of the data on the beaming room records but by having the original set ticket readily available information concerning any particular set may be found as needed later on.

We consider four things connected with beaming of major importance. First the yarn from which the warps are to be made. Second, the number of ends required in the warps. Third, the length of the cuts or rolls, and fourth, the kind of beams on which the warps are to be run. These four items cannot be left to chance, but must have the closest supervision of the overseer and the secondhands of the warping and beaming department. Of course they cannot personally check each of these four items on every set that passes through their department, yet these things must be checked by competent persons, working according to a system that meets the needs of the particular mill, and that is constantly followed up by those in charge of the room. Men who are easily annoyed by details will find plenty of trouble in this department.

It has already been explained that the set ticket or master ticket would be made out in the office. Information for this ticket would come from the order, a copy of which would be sent from the office. On this order might be stamped certain essential data from the organization sheet and from the beaming records. This information might include the yarn, the twist, the warp length, the number of ends and stripes or other colored markers. After the master ticket has been made out an entry on the face of the order would show the number of cuts or rolls warped or beamed, the date and possibly the serial number of the set. The warp tickets, or section beam tickets would then be made out and the tickets would be ready for the warper or the beamer as the case might be.

The Yarn Inspector

Before the yarn has been creeled a person, called a yarn inspector, should take the tickets to ascertain the kind of yarn to be creeled and then should examine some of the yarn from each box to be sure that only the correct yarn is put in the creel. Anything apparently wrong with either the yarn, the twist or even the tag on the box should be considered sufficient cause to have the overseer or one of the secondhands pass on the yarn before it is used, or to return it to the twisting room if the yarn is not correct. After the yarn has been creeled, the tag from the box of yarn, initialed by the inspector, will be hung in the creel adjacent to the yarn.

While this is taking place a creel checker, who may be one of the secondhands, takes the tickets back to the office and checks them against the order and the organization book, or other written instructions for beaming. (And in passing we might say that it has been found a good policy never to warp or beam a set without some kind of written instructions. It is so easy to misunderstand verbal orders.) This checking must be thoroughly and conscientiously done, the person doing the checking must be competent and must be familiar with the organization of the various fabrics and with the orders. If more than one person checks tickets, each inspector should use a different colored pencil to avert any chance of an argument as to responsibility in case an error gets by. Having checked the tickets the checker returns them to the beamer and proceeds to check the creel.

Errors are Costly

The ends in the creel will be counted. This procedure is quite simple as the yarn can be counted in rows and the total quickly added. The stripes or colored markers of any kind will be checked and it is well to look at each yarn tag that has been hung in the creel, for there is a certain amount of responsibility on the creel checker in

this connection in spite of the fact that some other person passed on the yarn before it is creeled. We have known a box of the wrong kind of yarn getting put up in a creel, and no one finding it until it had almost run out in spite of the fact that the tag was hanging there in the creel all of the time. After the creel has been checked the beamer tender is then permitted to start the beamer; that is, he will pull the knots on through the eyeboard and doff the warp that is left on the beamer from the set that was previously run, this warp being left on the beamer to pull over with. The new set has to be "laid-in" before being ready to run, which is the term used to describe the placing of the ends in the expansion comb, or rake, so that the yarn will be evenly spaced and will run properly on the loom beam. Even after a set has been started it is well for the checker to make a final check-up; one of the colored lines may have been left out, the length might not be correct or the warp might be running on the wrong loom beam.

Checking the warpers is very similar to that of checking the beamer. The ends on the section beam tickets for any given set must add up to the total number of ends in that particular fabric. The length, stripes and kind of yarn must also be checked as in the case of the beamer. When a new set is started in the warper the tickets will be thoroughly checked as has already been suggested, then as each creel is put up the ends will be counted and the yarn checked. When these beams reach the section beamer then the creel checker will be certain that all of the beams with this set or serial number are used and will once more check the number of ends.

Keep Yarns Apart

In order to facilitate creeling the beamers and the warpers it is well to endeavor to keep each kind of warp yarn separate, and if there are two or more lengths of the same kind of yarn on the floor at the same time these should by all means be kept separate. As the yarn is sent from the twisting room it should be carried to its proper place by a yarn man. This man may also look after the yarn that has been spliced. At intervals he may check the yarn, or better still one of the secondhands might do this. The yarn man might get out the yarn for the creelers, and remove the bobbins and empty boxes, keeping enough of the empty boxes on hand to take down the next creel of bobbins that will run down.

In connection with getting out the yarn for the creelers it has already been mentioned that a yarn inspector should examine the yarn before it is creeled. The inspector should look at each box of yarn and initial the tag before it is moved from its place on the floor by the yarn man. In this way the likelihood of the wrong box of yarn getting in the creel will be lessened. But if a number of boxes are gotten out and pushed behind the creel the inspector is likely to miss one, and even if the wrong yarn, that might be put in the creel, is found before running, there is the trouble and lost time occasioned by having to take this yarn down and putting the correct yarn up.

All of this may sound like a lot of bother and trouble for nothing. Some mills simply hold each employee responsible for any error in creeling, even allowing the creelers to check the creel. But in mills where there are inadequate systems of checking tickets and creels we have seen eight or ten warps on the floor to be rebeamed. And as the reader probably knows, rebeaming is not only expensive but frequently results in warps that are difficult to handle in the weave room.

Filling Inspection

Because of the way that ply filling yarn has to be handled in the filling winding room it is usually difficult to have a very effective inspection system without an almost prohibitive cost. For example, a doff of a certain kind of yarn would contain perhaps approximately 120 bobbins. The winders are usually divided up in units of five spindles each. On this particular yarn there might be only one loom, and five spindles would be marked up on this filling. After running two or three boxes of filling the yarn would be changed off and any yarn remaining in the winder trough would be taken up and put back in the original box. Suppose this yarn had been inspected when it came from the twist-

All photos by John C. Fonville of "Cotton"

Creel should be counted by checker or secondhand

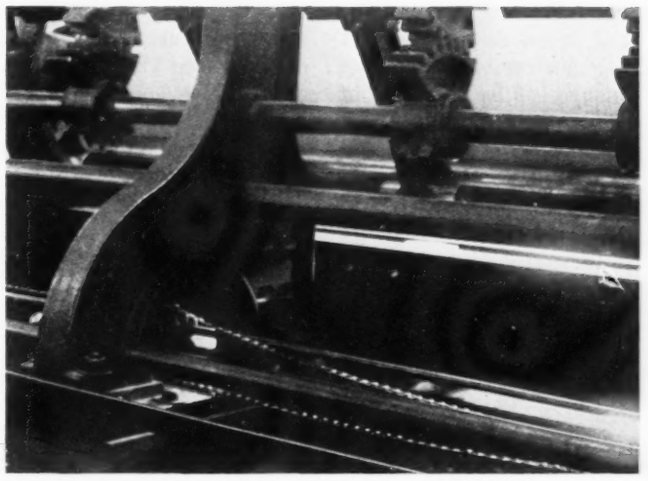
ing room and the tag initialed by the inspector, then the winder yarn man instead of putting the correct yarn back in this box, took up some yarn of another kind, from another trough, and put it in this box. Could the inspector be held responsible for this? We think not. It would simply mean that each box would have to be reinspected each time before using, which we hold to be more expensive than the results would justify. If the boxes could be entirely emptied at one time, as is usually the case in creeling the beamers, then it might pay to have a filling yarn inspector.

It seems to us that inasmuch as each winder operative actually handles each individual bobbin that he is the logical person to inspect the filling yarn. Our suggestion is that the winder operative examine a few bobbins each time a new lot of yarn is stacked out in his trough, even taking the trouble to look at the tag and see whether it compares with the kind of yarn that is marked up on his winder. Then for his own protection he should examine more yarn at regular intervals. say every fifth or every tenth bobbin. Each piece (any bobbin that is not full) should be carefully inspected. The winder operative should also try to get the *feel* of the yarn he is running and in this way he can often detect the wrong yarn even without untwisting it.

Pay for Finding Errors

As the winder man is in this case also the yarn inspector we think he should be paid for his trouble. Singlings should by all means be paid for, and in some cases doublings might be paid for. Mixed yarn would also come under the head of items for which the winder operative would be paid. In some cases he might also pay for yarns which he mixes through carelessness.

The filling should be properly tagged after it is quilled. If the filling winder hands are paid by the piece, as we think is the usual custom, the filling might be weighed by a person with a pair of scales mounted on a desk with regular truck, or "roller box" wheels. This filling weigher would then tag each box of filling as it is weighed and it would then be put in a rack or other suitable place for use by the weave room as needed. The markings on the tags should be legible and might carry such information as the yarn number and ply, the winder number, the initial of the winder tender and the date. It would thus be possible to trace any box of filling back to the person quilling it. In this connection the weave room should not allow any person to move quilled filling from one box to another except when absolutely necessary and then when this *is* done the tag should be initialed by the person handling the filling so that later should it develop that this person mixed the filling the winder hand would not get the blame.



Compressor, or presser roller on beamer. Note measuring chain

Prevention of Bad Work

The inspection systems and methods of marking warps and the quilled filling which we have previously outlined are designed to prevent errors or bad work such as mixed yarn, warps on the wrong beam, the wrong number of ends and the like. It is necessary, also, to put up a constant fight against oil and grease on the yarn or warps and dirty places where yarn has been handled or improperly stored. This fight must extend on back to the twisting, the spinning and the carding departments, but it is with the warping, beaming and filling winding department that we are chiefly concerned.

Beamer tenders and helpers should be provided with gloves to use in doffing. It takes too much time for these men to go wash every time they doff, but if they do not wear gloves their hands will be too greasy and dirty to get up an end after doffing. In some mills the men are required to buy these gloves but we have wondered if it would not be a good investment for the mill to provide each man a suitable pair of gloves and then insist that he wear them when handling beams, blocks and other doffing equipment. Near the beamer should be kept a bag or box with some Spanish white and before getting up an end the beamer tender should rub some of this on his hands. This prevents perspiration stains or dirt from the hands getting on the yarn.

Machine Cleaning

Because the beaming machinery is heavy, and because the older type has plain bearings, there is usually a lot of oil and grease about these machines. No cleaning should be attempted with a warp on the beamer and it is better to have the creel empty also. Then after cleaning, every part of the machine that comes in contact with the yarn should be carefully inspected for oil, grease and loose lint, and all this wiped off before the machine is allowed to start.

The compressing equipment usually has oilless bearings and these should be examined and cleaned periodically. Lint will sometimes collect around the little rollers which support the presser roller and if not cleaned out may stain the warp. If the supporting arms are not level the presser roller may not turn freely, causing a metallic dust to get on the warp and mak-

ing a streak.

Ends that break in the creel, or in the expansion comb, or that run out are a source of loose ends that cause the weaving department much trouble. Things that cause these broken ends include bobbins with broken tin or other defective heads, bad lay causing one end of the bobbin of yarn to be soft, ends that are tangled or crossed in creeling and other things. The creelers should be trained to do their work properly, and the one who hands-in must be especially careful not to cross the ends as she hands them to the tie-in hand. Defective bobbins of yarn should be returned to the twisting department daily.

To prevent loose ends on the run-out of a creel of the beamer it is necessary to have someone watch the creel, and for a large creel perhaps more than one person would be required. As two or three yards of yarn first started on the bobbin in the twisting room are usually slightly soiled and with insufficient twist, this must be pulled off before tying or splicing. For this reason, in the case of ends running out in the creel, the beamer should be stopped before the ends run entirely out, so that the soiled and slack twisted yarn on the end can be pulled off before tying or splicing. When ends run out this should be called to the attention of the overseer of the twisting department who should endeavor to locate and correct the trouble. Those tying or splicing the ends that do run out in the creel should have their hands clean and it is well for them to also use Spanish white to prevent perspiration stains.

Spliced and Rewound Yarn

It is very difficult to rework pieces, either by splicing or by regular knots, without letting some bad work get by. Often the pieces are allowed to accumulate in the twisting room and will collect lint and dirt. Such pieces should be returned to the twisting department, especially if very bad, and in any case all of the soiled yarn must be pulled off before splicing or tying. The same applies to the yarn on the start up of the bobbin as has already been explained. In other words splicing and rewinding are operations that require very close supervision and attention to quality. Careless, sloppy work should not be tolerated; in fact a few bad, dirty spliced knots can ruin an otherwise good roll of duck. Splicing is expensive at the very best, so this is no place to put help that will not fit in elsewhere just because the work seems to be easy and light. In the finer yarns, where regular weavers knots are used, care must be taken to have the ends trimmed fairly close and the same care must be taken to pull off all dirty and oily yarn as in splicing. For some yarns knotters that tie weavers knots may be used satisfactorily.

Filling winders are frequently a source of bad work when not kept in good condition. Cut filling, oil, filling too long or too short, or too large or too small, and as we have already stated, mixed fillings are the most common faults that must be guarded against at the filling winders. A good machine inspection system, carefully followed up, will help in this respect. Any complaint on filling, made by the weave room, should be accompanied by the data from the tag on the box of filling, then the person in charge of the filling winders should immediately check the particular winder making the bad filling and have the trouble corrected.

The newer model filling winders have, to a large extent, oilless bearings. In oiling the older type machines care must be taken to keep the oil from getting on the yarn. Too much oil will almost always result in trouble, especially in the spindle bearings and the tail stock bearings.

Filling rejected by the weavers should be taken up daily by some responsible person who knows whether the weaver or the winder hand is at fault, and the bad work returned to the winder room. In fact it is well to have one of the secondhands in the weave room examine this bad work before sending it back. Much of the bad filling may be reclaimed and used. Bad yarn, that is oil, dabs, tangled yarn, singlings, doublings, accumulated in the filling winding room, at the beamers, the warpers, at the splicing tables and the rewinders should be gathered up daily, examined by one of the warping and beaming room secondhands and returned to the twisting department. Persons setting out bad bobbins should be required to tag them immediately so that when the yarn is reworked in the twisting room each bobbin will have an identifying tag to assure its being put in the proper lot of pieces coming from the twisting room. Trouble? Yes. But what a world of difference in the quality of the warps and filling.

Leno Weaving

(*Continued from page* 75)

ed to slacken up exactly the correct amount on the doup ends in the cross shed so that this will be under a constant tension. As previously stated, it is also very important that the slackener does not slacken up on the doup ends before these are being raised into the cross shed. The slackener must therefore be attached to the harness jacks in such a manner that the harness jacks can move to the center of their motion before they will have any effect on the slackener. This is probably best accomplished by making the strap connection so long that the jacks have reached the center of their movement before the slackness in the straps has been taken up. This, of course, concerns only positive slackeners.

The use of a positive slackener does not eliminate the use of back harness or jazz bar as the object of these are to take up the slackness in the doup ends when the doups are even between the changes of sheds. The positive slackener is merely to pay out on the doup ends in cross sheds, in which they cross under the ground ends and are then brought up into top shed on the opposite side. To place all the compensation on the back harness, or jazz bar, would cause over-action on some class of leno weave.—The End.

A. W. Thompson Passes

Albert W. Thompson, vice-president and director of Parks-Cramer Company, passed away at his home in Lowell, Mass., on May 18. Mr. Thompson, inventor of the original Turbo humidifier, and author of "Air Conditioning Practice in Textile Mills", had been identified with Parks-Cramer Company and its predecessors since 1910. He was born in 1874, and graduated at Massachusetts Institute of Technology in 1896.

LENO WEAVING *Article 3* by Ivar Moberg

• In this, the third and last installment, Mr. Moberg concludes his discussion of leno weaving, giving, in addition to a description of the principles themselves, practical ideas on the subject derived from years of first-hand experience in leno weaving and its development. The first installment appeared in the April issue and the second in the May issue. Interested readers are urged to preserve their copies of each installment, as there is some cross reference from one installment to another.

Readers are invited to submit specific questions and problems relating to leno weaving to this magazine for discussion by Mr. Moberg.

The Boston Leno

FIG. 14 shows a portion of a Boston leno weave; a rare, but extremely attractive leno weave, in which two doup ends cross a central ground end. A portion of a plain weave is also shown in combination with the leno.

Condition Difficult

The weaving of this Boston leno is extremely difficult, good, even and stong warp yarn being required. The warp ends must be smooth, free from knots and suitable sizing is paramount. Gassed warp is advisable if fine counts are used. The loom must be in perfect running condition, without any play, lost motion or worn parts. Especially must the dobby, jumper and slackener motions be carefully gone over and placed in A-1 condition, for it is these parts that must carry the brunt of the strain. The doup and harness frames must be of very sturdy construction so as to stand up under the great tension and preserve the free play of the heddles on the heddle rods. Spring jacks for the pull-down of the harness should be used instead of direct pull-down springs, so that the wooden members of the heddle frames do not become bowed under the strain. The wooden members should be 2½ in. wide so that they will be as stiff as possible. The reed must be made of thin wires, the strength being maintained by an increase in width. The warp stop motion, the whip roll and the take-up roll should be set low so as to form a low warp line, the object of which is to facilitate the bringing of the ground ends down to the race board.

Positive slackeners, one for each set of doups, are preferable and they must be carefully synchronized with the motion of the doup needle, so that the doup ends will be under the same tension throughout the weaving cycle. The jumper harness must also be carefully timed with the movement of the doup harnesses during the weaving of the leno portion. The loom speed should not exceed 140 picks per minute for it is necessary to give the warp ends sufficient time to occupy positions, so deviated from their natural straight course.

It is also essential that the filling is given as great a tension as it will stand. Otherwise, the difficulty of beating up the filling in a straight line is increased, and the slightest protrusion on the warp ends will cause the filling to "hang". In the weaving of this type of leno it becomes of utmost importance to pay attention to the slightest detail, or failure of commercial production is bound to arise.

The reason for the difficulties in producing the Boston weave is apparent from the diagram of the weave in Fig. 14. It will be seen that the central ground end does not interweave with the filling in the leno portion. The ground end floats under the filling but is forced up against it by the action of the two doup ends. There are two cross sheds formed, one under the other, and this places an unusually great strain on the warp ends as well as on the loom itself. There is also a very great resistance of the filling to be beaten up, as it must be pushed against the double twist, formed by the two doup ends.

Fig. 15 shows a more intricate pattern of the Boston leno woven by another method, developed by the writer. The drawing-in-draft for this method is shown in Fig. 16 and the weaving plan, or chain draft, directly to the right of the weave. As can be seen the weave

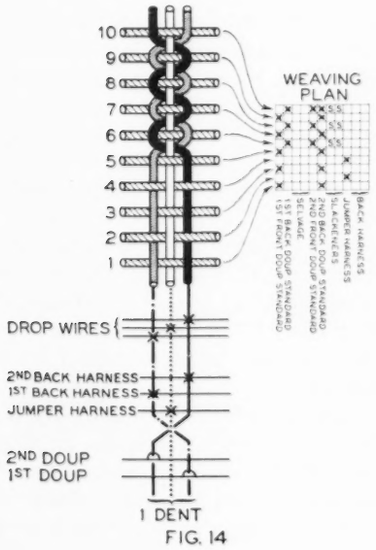


FIG. 14

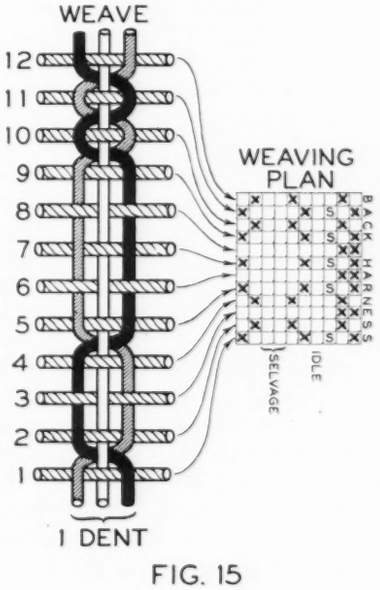


FIG. 15

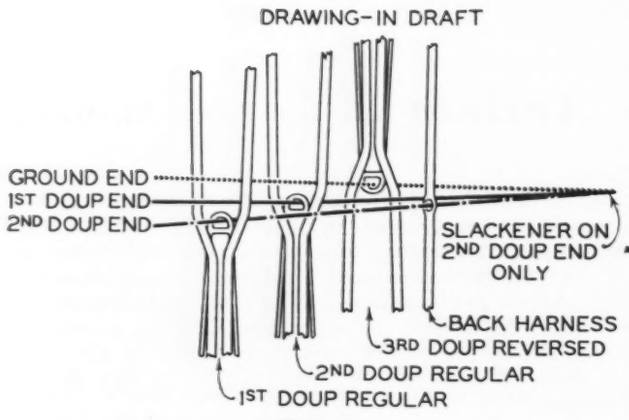


FIG. 16

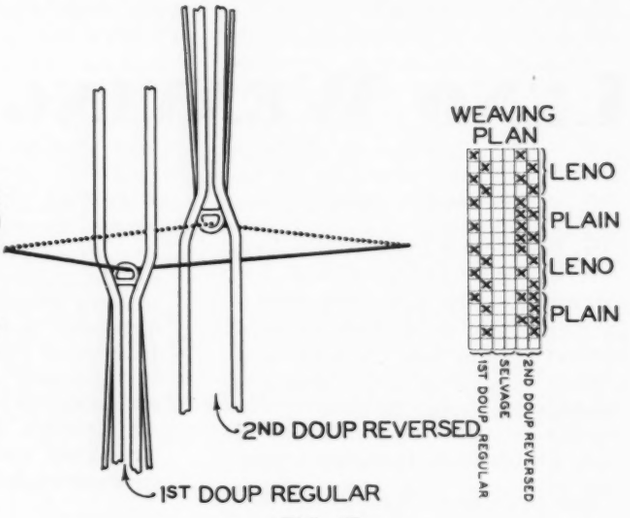


FIG. 17

is produced by using 2 regular sets of doups, 1 reversed set of doups and 1 back harness. The employment of the reversed doup eliminates the use of jumper motion and one slackener. The method also dispenses with one cross shed, the only cross shed being formed by the first set of doups. This method of weaving removes much of the difficulties encountered in the production of the leno of this type. It reduces the chafing of the yarn, the strain on the loom and the delicate and intricate setting in synchronizing the various loom motions. The slackener works on the doup end drawn in the first set of doups, which is the only end to form a cross shed.

To position the doups from a clear shed proceed as follows:

1. Turn loom over until all jacks are even.

2. Adjust the standards of the first doup to be even, with their doup ends well down on the race board.

3. Adjust the standards of the second doup to be even, with their doup ends clearing the top of the needle of the 1st doup by ¼-inch.

4. Adjust the standards of the third, or reversed, doup to be even, with their ground ends in top shed position. Point of needle must clear the other doup ends by ¼ inch.

5. Adjust the position of the back harness so that it will be approximately 2 inch below the bottom shed line. The back harness can also be substituted by a jazz bar, if more convenient.

6. Arrange the jack connection to the slackener toggle lever so that the slackener will not slacken up on the doup ends before the needle of the 1st doup is well on the way up in the cross shed formation. It is necessary to delay somewhat the action of the slackener by the lost motion method.

7. Turn the loom over one pick and check the height of the shed with first and second doup needle up. Also see that the reverse needle will bring the ground ends down on the race board. It may be necessary to give somewhat greater motion to the harnesses than with regular harnesses, in order to obtain the proper shed. This is done by raising the stirrups higher up on the harness jacks. With proper adjustment this method will produce a clear open shed and greatly reduce the strain on the yarn and the loom.

Fig. 17 shows a different method of weaving a 1 cross 1 leno, with or without plain weave combination. This method does not require any jumper motion, jazz bar, back harness or slackener. It is therefore well suited for under or side cam looms where the picks in a repeat do not exceed eight. It may be used for any of the weaves in Fig. 7, 9, 11 and 12 [see page 66 May issue.] but can not be used for intricate pattern of leno. The drawing-in is clearly shown in Fig. 17 as in the weaving plan for leno and plain weaves, both on the open shed and the cross shed side. While there is a cross shed in this method, the cross runs up to the drop wires and is therefore not readily visible. It is not near ly as troublesome as the cross shed in the regular leno methods.

In adjusting the doup harnesses they must be so adjusted that they are all even when the harness jacks are even. The reverse doup needle must be high enough to clear the doup end underneath it by ¼ to ⅜-inch. This forms a small shed when the harnesses are even. It is obvious that this requires a somewhat greater lift on the harnesses to obtain the proper height of the sheds, as the harnesses must move approximately ½-inch before the ends become even.

Drawing-In for Leno

Since the drawing-in drafts, shown previously in this series of articles, are rather vague for those not very well versed in the methods of drawing-in for leno, a series of diagrammatically illustrated drawing-in-drafts has been prepared. Fig. 18 shows how the ends are drawn in for the leno weaves in Fig 7, 9, and 11. [Page 66 May issue.] If jazz bar is used the back harness is dispensed with and the doup end is simply drawn through the doup needle only.

Fig. 19 shows how the ends are drawn in to produce the weave shown in Figs. 8 and 10 [Page 66 May issue.] Here again, the back harness may be substituted by a jazz bar.

Fig. 20 shows the drawing-in-draft for the leno shown in Fig. 13, [May issue.] production of which requires the super doup, in which the doup needle has a long

slot, instead of the eye in the regular doup needles. The back harnesses are here essentially and can not be substituted by the jazz bar. The doup needle has no control over the doup ends in the open shed when the full length of the slot is exposed. It must therefore have assistance from the back harnesses to lift the doup ends into top shed position.

Fig. 21 shows the drawing-in-draft for the difficult Boston leno which weave is shown in Fig. 14. The back harness here may be substituted by the jazz bar if desired, but, in the writer's opinion, back harnesses are preferable.

Adjustment of Harnesses

Due to the characteristic twist of the warp ends between the picks which make the leno a more or less difficult weave it is paramount to good weaving that the harnesses are accurately adjusted and timed.

The doup harness must be so adjusted that they are perfectly even, when the harness jacks are even. In this position the doup needle should be equally supported by the front and back doup standards. The jumper harness should be so adjusted that it will lift the ground ends ¼-inch to ⅜-inch above the point of the doup needle, when the latter is in lowest position. This will give the doup needle sufficient time to come up on either side of the ground ends. If the jumper motion is of the individual timing type it should be timed later than the doup harnesses, in other words, it should trail the doup harnesses. The object for this is to give the doup harness time to "open up" so that the ground ends can be freely lowered between the doup needles and the standards, without any interference. However, the jumper motion must not be timed so late that it will not lift ground ends out of the doups before they start to close up at the change. In such a case the ground ends would be pinched between the doup needles and the standards which would cause them to break.

The springs which pull the needles down onto the standards must be very carefully adjusted. If the tension from these springs is excessive, it will cause the doup needles to break under the strain. If the tension is sufficient, the doup needles will not descend fully into their bottom shed position, which prevents them from coming up on the other side of the ground ends, causing excessive warp end breakage. The tension of these springs must therefore be just sufficient to keep the doup needles in light contact with the doup standards when these are even, or in their lowest position. If only a few steel doups, as in center selvages, are used, it is almost impossible to adjust the tension of the springs so that it will not be excessive and subject the doup needles to undue strain. The reason for this is that a minimum tension to overcome the momentum, the vibration, the frictional resistance, etc. is required.

Under favorable condition which changes during the weaving, this minimum tension will be excessive for the few doup needles to carry it. Consequently the doup needles are very likely to break. In this case intermediate needle rod supports, Fig. 22, can be easily made. These intermediate needle rod supports, absorb the

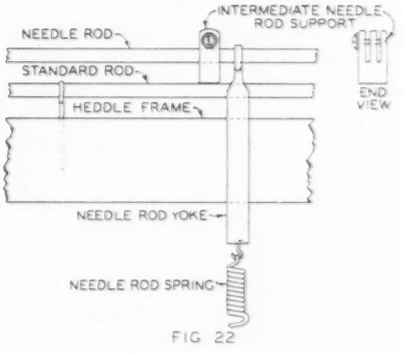


FIG. 22

excessive spring tension and the doup needles are not forced to carry it. They may be made from a piece of hard wood, ½-inch thick, ¾-inch wide and 1¼-inch high. Two slots to take the doup needle rods are sawed in the wood and are clamped over the rods by a wood screw. The lower end of the support rests on the doup standard rods and takes the tension from the springs. The distance from the end of the sawed slots and to the lower end of the support should be just long enough to support the needle rods so that the needles will just clear the intersection of the doup standards. In weaving, the support will be lifted first by one rising standard rod and then by the other. The fact that the support is made from hard wood prevents wear on the rods, where they come in contact with the support. Two of these supports placed close together will also confine the doup to stay in proper position during the weaving. A single set of doups all by itself, has a tendency to spread out, or move away from the proper position.

The slackener should be adjust-

(*Continued on page* 72)

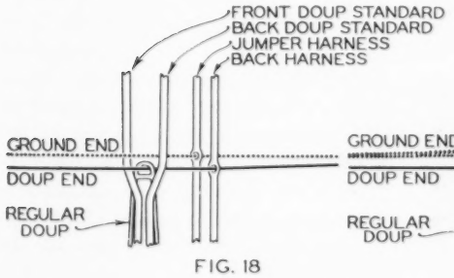


FIG. 18

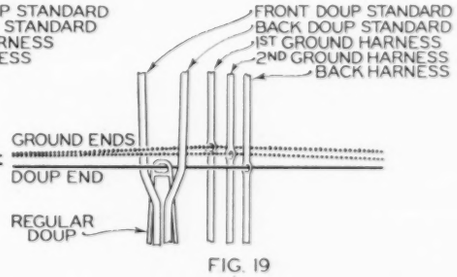


FIG. 19

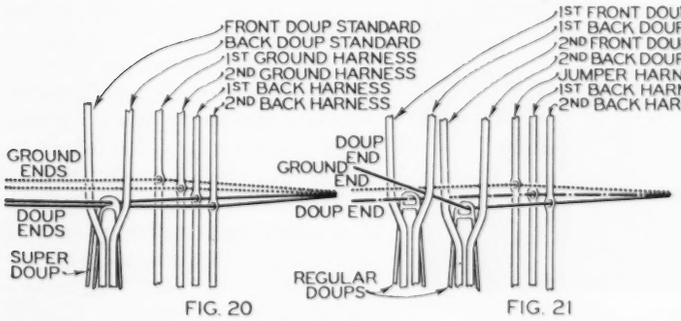


FIG. 20

FIG. 21

CLOTH ROOM PRACTICE

(Part Four)

[By Erwin Hard

• This is part four of a series of articles on cloth room practice and management. The first three installments appeared in the March, April and May issues. Thus far general handling of the cloth of various types, selection of employees and types of trucks have been discussed. This article takes up lighting, humidification, stamping and spot cleaning. The articles are prepared by experienced mill men.

Cloth Room Lighting

THE cloth room requires a well arranged, adequate, lighting system. Because the requirements of various machines are somewhat different it is not necessary that the arrangement of the lights be uniform, but rather that they be suitably located for each phase of the work. Lights of the "mercury tube" type, for the cloth inspectors have been found satisfactory for white goods. Special lamps or incandescent lamps are often necessary where colored goods are made.

There should be plenty of light in the inspecting department. Cloth cannot be properly inspected with a poor light. Many times the location of the lamps are such that they give a glare or throw shadows on the work. This is a very bad condition, and one which should not be tolerated. Some plants have subdued their ceiling lights by the use of small bulbs and reflectors and located the inspection lamps underneath the cloth tables. The cloth is then examined over the lights rather than under them. This is working out nicely for some mills.

Humidity in Cloth Room

When we come to the subject of humidity in the cloth room there seems to be some variation of opinion concerning the humidifiers best suited to cloth room, but almost every one agrees that humidifiers of some kind are necessary. The writer believes that it is good practice to have an adequate humidity in the cloth room just as well as in any other department. There are two points to consider, namely: 1—The method of processing the cloth. 2—The system best suited to obtain the results. In some plants little or no inspecting is done until after the goods have been finished. In this case the cloth room is the last department to handle the goods before they are packed or stored. Here the relative humidity in the cloth room is very important because the cloth would be very harsh and dry, and would not have a chance to regain its original or natural moisture content without humidifiers.

In other plants the cloth is taken from the loom direct to the inspecting machines, thence to the brusher, shear, and singer. (This is usually called the cloth room). After this it is finished, folded, inspected, put-up, and packed. (These latter processes constitute the finishing department.) With the cloth processed in this manner, humidifiers in the cloth room, as it is so termed above, would be practically useless. Whatever moisture the cloth would have absorbed would either be lost or radically altered in the tentering and drying processes which followed.

Some plants have devised methods of applying moisture direct to the finished goods between the tenter and the calender. These methods vary somewhat, but they are fundamentally the same. A number of atomizers are arranged in such a manner that they blow about the cloth as it travels from the last drying can to the first "nip" of the calender rolls. These atomizers may not give the cloth all the moisture necessary, for if the goods remain in the room for some time they will dry out. If this is the case, regular humidifiers may be installed about this part of the finishing room.

Still another condition is found in some mills, where no finishing of any consequence is done. The cloth is simply burled, brushed, sheared, folded, tacked and baled. Humidity in a cloth room like this is very important. When goods are put up in this manner the mill usually has a steamer and ironer between the brusher and the batcher. This gives the cloth a nice "feel" and takes the wrinkles out. Additional humidify-

". . . it is good practice to have adequate humidity in the cloth room . . ."

ing equipment is also needed to maintain the correct moisture in the air throughout the room.

The writer would like to emphasize the importance of *properly regulated* humidity. Too much humidity is about as bad as too little in the cloth room. If it is important to have the humidity at all, then it should be properly controlled. If this is not done and the heads are allowed to run in a slipshod manner then we may expect to have a great variation in weights, and probably have mildew in the cloth.

The hand method is used in this plant for the branding or stamping process. The rounded table saves steps. The man in the picture has just applied the inked "chop" or "stamp" to a bolt of cloth.

Stamping Cloth

If the cloth room receives cloth from more than one weave room, or uses more than one inspector, it is necessary to use a different stamp for each room and each inspector. The stamps for the weave rooms may be marked No. 1, No. 2, etc. The stamps for identifying each inspector's work may be A, B, C, etc. If the mill manufactures gray goods to be bleached (or dyed light shades) in the piece, a good grade of black indelible ink is preferred for the stamping. Rubber stamps about one inch square, with bold faced letters or figures are good.

In the case of dress goods, suitings, etc., it may be necessary to use a crayon pencil for marking, putting the mark as near the end of the cloth as possible so it will fall in the seam. Some plants use gummed stickers but this is of questionable value for identification as they often come off or interfere with the finishing processes.

Where rubber stamps are used it is very important to keep the stamps clean. If they are allowed to get dirty and caked with lint they will cause "tracking". By this term we mean that the letter stamped on the cloth with a dirty stamp will leave a heavy print on the rollers of the machines and every revolution of the roller will make another print of the stamp. This will continue to track on the cloth until all the excess ink is absorbed. A good idea is to have each inspector keep her stamp and pad in a small tin box with a spring top. These little boxes can be obtained from most stamp makers, and at the touch of the catch it flies open and the stamp and pad will be clean and free from lint. If this is done the stamps may be cleaned less often.

If the goods are to be finished the stamps should be about 2 inches from the end of the cloth. This will allow for seams and the stamp will still be on the cloth, but very near the end. If goods are to be sold in the brown, or unfinished state, a soft chalk, in light colors, can be used for marking the cloth. This can be very easily brushed off with a stiff whisk broom before the goods are packed for shipment. Many buyers dislike marks on the cloth.

Cleaning Spots

There are a great many spot removers on the market today, some of them very good. One remover will suit one mill and another will suit another mill. The writer has found that soft soap solution made by shaving a good grade of white soap and mixing with water with a dash of cleaning ammonia serves the purpose in his mill.

The writer uses a small, hardwood paddle about the size of a pocket comb to rub out the spot. A little of the soap solution is applied to the spot and it is rubbed with the end of the paddle. If it does not completely disappear with the first application put on a little more solution and rub again. Usually about two applications will get almost any spot of grease, or dirt, out. After the spot has been removed the place should be rinsed with clean water so it will not circle the goods. A small bleached sponge is best for this.

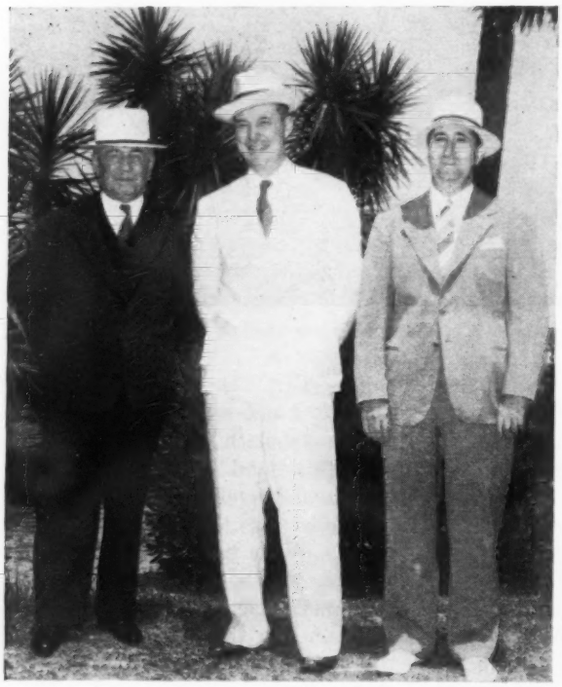
The sponge should be small enough for the inspector to conveniently hold it in the palm of the hand. First the inspector passes the left hand under the cloth and grasps the cloth just below the spot with this hand. The cloth is then tightened by pulling it against the top roller on the inspecting machine. With the right hand the sponge, which has been partially filled with clean water, is rubbed, first on top the cloth, then under the bottom, until the dirty soap stains have been removed. Then squeeze the water out of the sponge and rub the dry sponge over and under the cloth to absorb the excess water. Some mills use spot removers very effectively which do not require rubbing. The remover is simply put on the spot and allowed to remain. It dissolves the grease or dirt and it is washed out in the bleaching or finishing process. It cannot be used in this manner where goods are sold in the "brown".

Textile Men May Win Awards in Progress Program

Many readers of this magazine are in a position to participate in the $200,000 Industrial Progress Program being sponsored by the James F. Lincoln Arc Welding Foundation, Cleveland, Ohio. While the program is for the entire industrial field, there are four special awards amounting to $1600 which are definitely designated for subjects in the textile field, and there are several other awards amounting to thousands of dollars for which textile men may compete.

Awards of the progress program are for reports describing advances and improvements made between now and June 1, 1942, by application of arc welding to industrial work, including design, manufacture, fabrication, etc.

Georgia Cotton Mill Men Enjoy Celebration of 40th Anniversary



The new officers of the Georgia association. Left to right: **J. A. Miller**, of Exposition Cotton Mills, president; **George P. Swift**, of Muscogee Mfg. Co., vice-president; and **Julian T. Hightower**, of Thomaston Cotton Mills, treasurer. Sea Island photo by Terhune.

FORTY YEARS of continuous, effective service to its industry were celebrated by the Cotton Manufacturers Association of Georgia at its 40th annual convention at Sea Island, Ga., on May 16 and 17. Organized in 1900, as the Georgia Industrial Association, this association has, within recent years, established itself as an outstanding one in the textile industry, and special features in honor of its ruby anniversary combined with a customarily stimulating and enjoyable program in making last month's meeting a highlight experience for those attending.

Robert O. Arnold, treasurer and general manager of Covington (Ga.) Mills, who had the distinction of serving as the association's president in its 40th year, arranged and executed, with Secretary T. M. Forbes, a program well-balanced in its provisions for every requirement of a perfect convention.

John Miller Is New President

In the concluding business session, on Friday morning, May 17, the annual election of officers was held, with Fuller E. Callaway, Jr., immediate past president—who, by the way, is the only past president younger than the association itself—reporting for the nominating committee. John A. Miller, president of the Exposition Cotton Mills, Atlanta, Ga., was named president of the association succeeding Mr. Arnold. George P. Swift, vice-president of the Muscogee Mfg. Company, Columbus, Ga., was made vice-president of the association succeeding Mr. Miller, and Julian T. Hightower, vice-president of Thomaston (Ga.) Cotton Mills, succeeds Mr. Swift as treasurer. Four new members were added to the board of directors for three-year terms:

Marshall C. Stone, vice-president, Pacolet Mfg. Company, New Holland, Ga.; Landon Thomas, president, John P. King Mfg. Company, Augusta, Ga.; L. E. Bowen, treasurer, Tifton (Ga.) Cotton Mills; and C. M. Walker, president, Monroe (Ga.) Cotton Mills. A. A. Drake, Jr., vice-president, Bibb Mfg. Company, Macon, Ga., was named to the board filling the unexpired term of Mr. Hightower, the new treasurer. W. D. Anderson, president of Bibb, was elected as a life-time member of the board, sharing this honor with Albert T. Matthews, vice-president, Martha Mills, Thomaston, Ga., who was so honored several years ago. T. M. Forbes was re-elected as secretary of the association.

Outstanding at the first session of the convention on Thursday morning were the address of President Arnold, and a talk by B. C. Forbes, editor of *Forbes Magazine*, and nationally known newspaper columnist, economist and business writer.

Mr. Arnold reviewed the history of the association since its formation, reminding present-day mill men that their predecessors had pressing problems of their own, but that fundamentally, the major problems remain the same. He told of progress made in textile efficiency and personnel, but felt that, "while we have done a lot for our people, I fear we have neglected to help educate them for self-protection from political demagogues and from the disseminators of false doctrines.

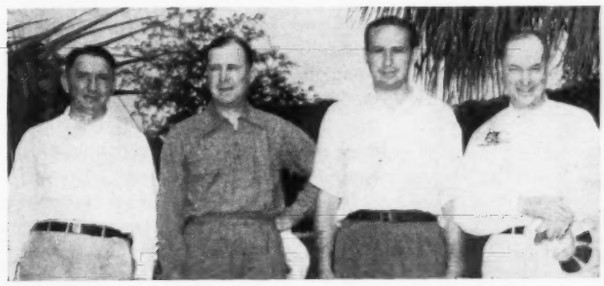
"One of the objectives of every textile community in America should be the training of every employee to be a loyal American citizen. Along with that education must come the inculcation of character, for a community, a state, a nation can be no stronger against subversive forces than the character of the people who make it up. As much as any other one thing in this country, has our passive regard for character become the cause for most of our economic ills. The fundamentals, upon which this great country was built, were inherited from the trials and adversities of our ancestors, and we have no right to give up or

Some of the past-presidents of the Georgia association. Photo made at Sea Island by Terhune. Left to right: **Norman E. Elsas**, of Atlanta, **W. H. Hightower**, of Thomaston, **R. O. Arnold**, of Covington, **Fuller E. Callaway**, of LaGrange, **W. N. Banks**, of Grantville, **Paul K. McKenney**, of Columbus, **John H. Cheatham**, of Griffin, and **D. A. Jewell, Jr.**, of Chickamauga.

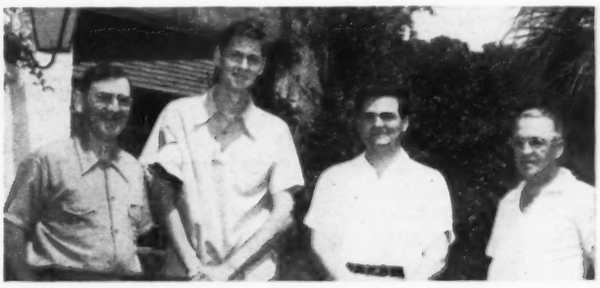
Some of brave golfers in the tournament at the Georgia convention at Sea Island last month . . . . . .

Two bottom photos made for "Cotton" by P. G. Wear; others are Sea Island photos by Terhune . . .

S. W. Quisenberry, of Atlanta; W. R. Beldon, of Clarkdale; R. C. Ashworth, Jr., of Fall River; and Frank M. Kimble, of Carrollton.

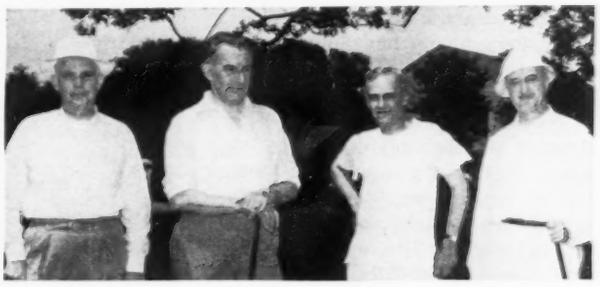


Louis Kirby, of West Point, Ga.; Clyde Williams, of Atlanta; Fred Howe, Jr., of Charlotte; and George P. Swift, of Columbus.

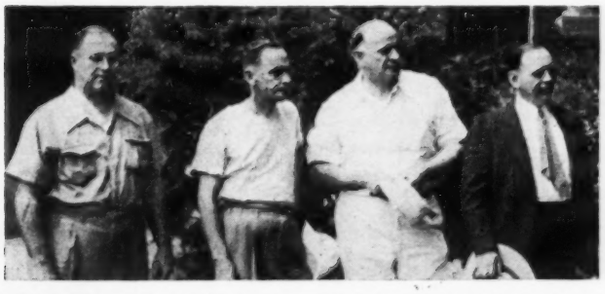


L. L. Jones, Sr., of Canton, Ga., his two sons, J. Turner Jones and Louis Jones, Jr.; and Harry S. Roberts, of Atlanta.

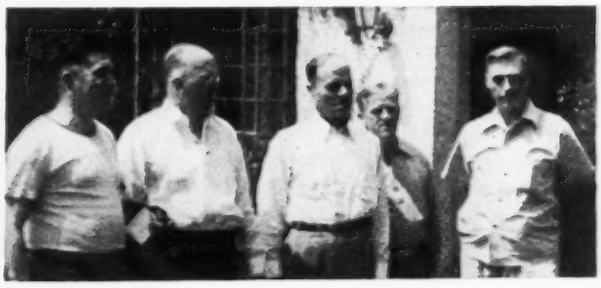
L. A. Dillon, of Atlanta; Bill Terrell, of Charlotte; Forbes Bradley, of Columbus; and Ted Wallace, of Birmingham.



Edmund Cook, of West Point; M. A. Williamson, of New York; M. M. Trotter, of LaGrange; and Harry C. Coley, of Worcester.



R. A. Wells, of Talladega, Ala.; M. A. Comer, of Atlanta, Ga.; W. M. White, of Talledega; and R. D. Harvey, of Lindale, Ga., a member of the tournament committee.



J. J. Blank, of Thomaston, Ga.; J. I. O'Neill, of Atlanta; Ira A. McDaniel, of Cartersville; C. L. Hamilton, of Dalton; and Hatton Lovejoy, of LaGrange

destroy this vital and precious heritage."

Turning to strong criticism of the new philosophy of government in Washington, Mr. Arnold declared that as a result of the New Deal methods, "there lies idle an excess capital of six billion dollars and there are just as many unemployed now as in the beginning of the dynasty of Roosevelt, the Second. The future history of America will record his doings as the superlative folly of the human race. Napoleon, Nero, and the rulers of Babylon will seek minor places on that record."

After flaying the administration of the New Deal measures, some principles and objectives he endorsed, Mr. Arnold submitted a program of remedy, recommending that as a nation we: "1, Balance the national budget and stop wanton waste; 2, stop labor-baiting and bring capital out of hiding so that labor and capital can co-operate; 3, stop buying votes with tax money and have honest elections; 4, put a premium on thrift and economy; and, 5, let's again put our faith in the Christianity of our forefathers, out of which grew the idea that all men are free and equal. In the simple teachings of the Bible we may find the remedies for all our troubles."

Mr. Forbes, the other featured speaker on the Thursday morning program, discussed the long-time economic future of the South. He cited the great strides made thus far in the South, economically, industrially, and socially, mentioning that the section has four-fifths of the nation's cotton-textile manufacture, three-fourths of its rayon production, and is experiencing a rapid growth in pulp and paper industries. He frankly criticised the cotton-textile industry for its somnolent, lackadaisical attitude on scien-

The Golf Tournament at Sea Island

AN enjoyable feature of the Georgia convention at Sea Island each year is the golf tournament, on the sporty Sea Island course, open to association members and guests. A handsome array of prizes, provided through the courtesy and generosity of a group of non-member attendants connected with supplying companies, was awarded at the Thursday night banquet by Frank B. Williams, chairman of the golf tournament committee.

C. Russell Gill, of Southern Sizing Co., Atlanta, won the prize for low gross (a 15-inch silver trophy), for members and guests, with a score of 76. Other prizes, and their winners, were:

Second low gross (all participants), 12-inch silver trophy: W. S. Terrell, Terrell Machine Co., Charlotte. *Low gross, members only,* 14-inch silver tray: Norman Elsas, Fulton Bag & Cotton Mills, Atlanta. *Second low gross, members only,* 11-inch silver tray: George Hightower, Thomaston (Ga.) Cotton Mills.

Low net, members only, annual trophy for one year and silver bowl and cover for permanent possession: Frank M. Kimble, Mandeville Mills, Carrollton, Ga. *Second low net, members only,* silver bowl: L. L. Jones, Canton (Ga.) Cotton Mills.

Low net, guests only, silver water pitcher: Harry S. Roberts, Allis-Chalmers Mfg. Co., Atlanta. *Second low net, guests only,* ice bucket and tongs: Ed S. Merritt, Southern Belting Co., Atlanta, Ga.

Special prizes were awarded as follows, with all participants eligible: *Low gross on par 3 holes,* clock; J. H. Zahn, H. W. Butterworth & Sons Co., Charlotte. *High gross score,* hand bag: W. E. Clark, of U. S. Rubber Products, Inc., Hogansville, Ga. *Most balls lost in water,* special prize, S. P. V. Desmond, Crompton & Knowles Loom Works, Charlotte. *Tee shots nearest cup on par three holes:* W. Hill, Pepperell Mfg. Co., umbrella; M. A. Williamson, Textile World, New York, sweater; M. A. Comer, Saco-Lowell Shops, Atlanta, rain jacket; and T. L. Hill, Armstrong Cork Co., Lancaster, Pa., sweater.

The golf committee consisted of: Chairman, Frank B. Williams, agent, West Point (Ga.) Mfg. Company; R. D. Harvey, manager, Pepperell Mfg. Co., Lindale, Ga.; W. H. Taylor, president, Newnan (Ga.) Cotton Mills; J. W. Stribling, Universal Winding Co., Atlanta, Ga.; and Robert W. Philip, Editor COTTON, Atlanta, Ga.

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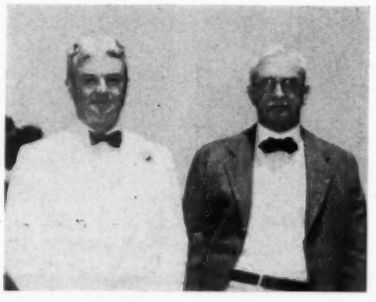
tific research, and urged greater coordinated activity along this line.

Touching on prevailing war conditions, Mr. Forbes showed how the South's location places it logically in position to enjoy an increased trade from the countries in the southern part of this hemisphere, but cautioned his hearers that "there are great difficulties involved in securing and holding this business."

Despite the clouds over Europe, Mr. Forbes expressed himself as "being more optimistic over the outlook for America than at any time during the past 12 years." He urged that the South grow up, politically, declaring that its political conduct in the past has been of the kindergarten type; this section, he said, must stop worshipping party labels.

C. Baxter Jones, general counsel for the Bibb Mfg. Company, was the concluding speaker of the session. He discussed the electric power rate situation in Georgia, and made recommendations of cooperation between the mills and the power company.

Thursday afternoon was devoted to the association's annual golf tournament and other entertainment. Thursday evening, the annual banquet was held, with President Arnold as toastmaster. Golf prizes were awarded, and, in addition, each lady present received a gift of a product of a Georgia mill, these being contributed by the mills of the state. W. D. Anderson officiated in a tribute to the past-presidents of the Association. Paul K. McKenney presented to Retiring President Arnold a watch in behalf of the association as a token of appreciation

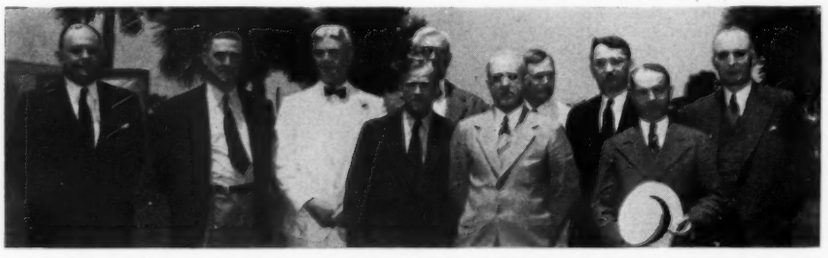


W. D. Anderson, right, was made a lifetime member of the board of directors, sharing this honor with **Albert T. Matthews,** left, who was so elected several years ago. Sea Island photo by Terhune.

of his services. The Keystone Quartet of the Pennsylvania Railroad furnished delightful music at this function, as well as at the general sessions of the convention.

The final session on Friday morning was the business meeting of the association, with reports of officers and committees. Of especial interest was the report of the cotton improvement program in Georgia, by E. C. Westbrook, who told of progress in bettering the character of Georgia cotton, and indicated steps that are being taken to improve the ginning done in the state. Charles C. Hertwig, vice-chairman of the office executives division, reported for that group, and the association unanimously voted to revive its activities. T. M. Forbes made his usual efficient and interesting report as secretary; George P. Swift reported as treasurer; Paul K. McKenney reported for the traffic committee; B. J. Kane for the cotton buyers division; Norman E. Elsas for the public relations committee; and J. C. Platt outlined the history and activities of the Textile Operating Executives of Georgia. S. H. Swint reported for the committee on resolutions.

On Friday evening, with the convention formally closed, those remaining participated in a "pool party" at the Roman swimming pool, with a water sports carnival being staged, and a prize for identifying the largest number in a photograph of the Association's 1924 convention being awarded to Albert T. Matthews, of Thomaston.



A group of directors of the Georgia association, snapped by Terhune at Sea Island. Left to right: **L. E. Bowen,** of Tifton, **I. C. Milner,** of College Park, **Albert T. Matthews,** of Thomaston, **C. L. Hamilton,** of Dalton, **W. D. Anderson,** of Macon, **G. I. Parmenter,** of Cartersville, **S. W. Thornton,** of Hartwell, **H. Gordon Smith,** of Hogansville, **F. M. Arnall,** of Newnan, and **S. H. Swint,** of Augusta.

Selling Your Ideas

Often we make the mistake of expecting those whom we supervise to accept our ideas immediately and without question. A little patience in taking time to sell an idea to the man below is usually a time-saver in the long run.

1. Remember that the man below has not had all the advantages and all the information which you have and, therefore, cannot be expected to grasp your new idea instantaneously.
2. Selling an idea may require going over and over the points involved.
3. Take time to present one idea at a time.
4. Be willing to take time to give the man the underlying reasons and the background for the ideas you wish him to accept.
5. The route may seem clear and simple to the man who gives you highway directions but, to you, who have never been over the road before, even simple directions may seem complicated. The same principle applies in selling a new idea to the man below you. —"*Management Information*", *Elliott Service Co., Inc.*

As I See It

Did you ever stop to think that no matter how you look, you're always better looking when you smile?

Sometimes, I think that too many men in supervisory jobs overlook the value of a friendly smile.

It has been so long since some men saw the boss smile that they would think something was wrong if he did.

I always feel sorry for people who have to work under a man who doesn't know how to smile and who doesn't smile often.

Nobody likes an old "sourpuss."—*Glenn Gardiner in "Management Information".*

Salt Tablets Reduce Fatigue

MUCH interest has been displayed by textile mills in the use of salt tablets to be taken by the operatives for the purpose of reducing fatigue. At the October 1939 meeting of the Textile Operating Executives of Georgia this subject came up for discussion, and every mill having experience with the use of salt tablets reported favorably on the practice. These tablets are usually available in dispensers placed at convenient points throughout the plant or the salt is dissolved in drinking water. For those who have not followed the developments in making available the salt, a brief description of how the salt affects the operatives is in order.

According to authorities, it isn't the heat, but the loss in salt from the body that does the damage and causes fatigue to operatives doing hot, heavy work, and there is much scientific evidence and practical plant experience to back up this statement. Medical men agree that excessive salt loss from the body results in increased fatigue, lowered strength and efficiency. If carried too far, loss of salt causes heat cramps.

One of the most important functions of salt in the body is to enable the cells, the blood stream, and the special fluid that bathes the brain and spinal cord to hold the necessary amount of water. This has been clearly proved by tests at a steel mill, where men drinking plain water weighed out

A convenient salt dispenser

5.6 pounds lighter after finishing their shift, whereas men drinking water with small amounts of salt added lost only a little more than a pound in the same time. Further evidence of the importance of salt to the body is found in experiments showing that an animal can live longer without food than it can without salt.

Contrary to popular opinion, the body does not store a reserve supply of salt and any excess above the normal requirement is immediately passed off by the kidneys. You can prove this yourself some morning by drinking a pint of water with a couple of teaspoons of salt added, and see how quickly the body eliminates the solution.

On the other hand, a substantial amount of salt may be lost from the body of operatives doing hot, heavy work because the salt balance can be readily lowered by excessive sweating, which carries off both salt and water. When only water is replaced, it is obvious that the amount of salt in the body is constantly reduced.

Salt loss can be replaced simply and inexpensively in a number of ways. Some plants add salt to the drinking water of workers who sweat, at the rate of one teaspoon of salt to the gallon of water. Other plants provide salt tablets in sanitary dispensers mounted by drinking fountains. One tablet, of 10-grain size, is the correct amount to take with a drink of water. Operatives quickly get into the habit of taking a tablet with every second or third drink when sweating heavily; they feel better after the day's work, and usually there is an increase in efficiency and production.

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Conference on Human Relations in Industry to Meet at Blue Ridge, N. C., July 18-20

Some of the textile group attending the Blue Ridge conference last year . . .

The 21st annual session of the Southern Conference on Human Relations in Industry will be held July 18-20 at Blue Ridge, North Carolina. An excellent program has been arranged, with nationally-known speakers to address the conference. T. M. Forbes, secretary of the Cotton Manufacturers Association of Georgia, is on the program committee and has secured such speakers as Glenn Gardiner of the Forstmann Woolen Mill, Passaic, N. J.; George Hodge, personnel manager of International Harvester Co., Chicago; E. R. Schell, department of business and engineering administration of Massachusetts Institute of Technology; and A. L. Kress of the National Metal Trades Association, Chicago. W. E. Clark, director of employee relations of the U. S. Rubber Company, Hogansville, Ga., will also be on the program and will present a play showing the average day in a personnel manager's life.

The conference opens Thursday, July 18, and will continue through Saturday, July 20. The theme of this conference will be "A Practical Plan for Developing Sound Industrial Relations". The sessions usually open with an address on some phase of human relations, after which a leader directs round-table discussions in which those attending take part.

At the 20th annual session held last July more than twenty-five textile concerns were represented. The conference was a success in every respect and it is expected that a greater number of textile manufacturing plants will send representatives this year.

Hotel rates on the American plan run from $3.00 to $4.50, and reservations can be made through E. G. Wilson, executive-secretary, 706 Standard Building, Atlanta, Ga. Reuben B. Robertson, Champion Paper & Fiber Co., is chairman of the conference.

Those wishing to review last year's meeting will find a report of the conference on page 75 of the August, 1939, issue of COTTON, and page 64 of the September 1939 issue of *Southern Power and Industry*.

SC Carders and Spinners Meet at Parker High School

THE CARDERS AND SPINNERS section of South Carolina Division of the Southern Textile Association held a spirited meeting at the Parker District High School, Greenville, S. C., Saturday morning, May 25. The meeting was in charge of G. G. Simmons, Drayton Mills, Spartanburg, and technical discussion was led by W. W. Splawn of the Kendall Mills, Pelzer, S. C. Before the questions on the prepared list were taken up, Louie Greet, director of the Parker District High School, was introduced, and told something of the work of the high school toward training boys and girls for positions in the textile industry. The school will also be used this summer to train learners for specific jobs, such as spinners and weavers, a program made necessary because of the restrictions of the wage and hour law in keeping all but a certain percentage of learners out of the mill. In a brief business session W. T. Morton, Monarch Mills, Union, S. C., was elected general chairman to coordinate the two South Carolina STA sections, Carders and Spinners, and Weavers sections; W. W. Splawn was elected chairman of the carding and spinning section, and on May 6, the weavers' section elected J. H. Burgess, Springs Cotton Mills, Chester, S. C., as chairman of its section.

The first question was "Why use heavyweight roll cloth on card room rolls, when most of rolls are re-covered because of hollowing out?" John Caughman, Startex Mills, Tucapau, S. C., who has been using cork rolls for quite some time, but who has had experience on leather-covered rolls, said that it has been his opinion that there is less hollowing-out of rolls with the heavier cloth (used as cushion under leather), and went on to say that "we found it was false economy to use lightweight cloth—it might save on the weight of the cloth, but the life of the rolls on lightweight cloth does not compare favorably with the life when the heavyweight cloth is used.

At this point R. T. Stutts, Woodside Cotton Mills, Simpsonville, S. C., asked what weight roller cloth the members present are using in their card room. In answer, J. L. Brannan, Hermitage Cotton Mills, Camden, S. C., advised that cloth of about 14 ounces per yard is considered lightweight but from 16- to 22-ounce cloth is used by some mills. Mr. Brannan is also running mostly cork in his mill, but went on to give his experience by saying he has found that a short stroke on the roving traverse is one of the main causes of rolls hollowing out, and he suggested the roving traverse 1/8-inch from the end of the roll in order to remedy this trouble. Continuing, he said, "Keep the roving traverse properly stroked and use a 16-ounce cloth on the roll and you will not have hollowing-out—unless you are running too much twist." Commenting on what Mr. Brannan had said, the chairman was quick to point out that he had made a pertinent suggestion and he then added that if "you save on the cloth and on the leather then the quality of the yarn must suffer. I have found in the spinning room that it is not all the time things we do not know that hurt us—it is the things we know and do not do that hurt us."

Mr. Simmons

Mr. Caughman, adding to what he had already contributed, said that in using heavy roll cloth there is also less fluting; to which the chairman said that a good cushion on the roll is good practice. W. E. Hammond, Balfour (N. C.) Mills, discussed this same question and brought out that if the better grade of cloth is used it will not break down so easily. "If you use a low grade the shoddy breaks under the skin of the roll and then the roll vibrates and causes uneven yarn. A smooth cot will give a smooth yarn. The cloth should be changed every time the cot is changed; I have been carding for 55 years and I use a heavy cloth and change every time I change the cot on the roll." Mr. Splawn agreed with the foregoing in toto.

Grinding Spun Rayon Cards

"Should cards be ground more frequently on spun rayon than on cotton" was question number two. When one member was called on he answered that "All cards should be ground before they need it", and the concensus of opinion was that this is a pretty good idea, regardless of what textile fiber is being carded. Mr. Stutts reported that his plant has been running spun rayon for nine months and he grinds every 15 or 16 days when running two shifts, which is his same schedule on cotton. He said that if the mill is running rayon staple fiber and cotton in the same card room, one could look at the rayon cards and almost believe he is doing a good job on the rayon because it is so much cleaner and freer from neps than the cotton. Mr. Stutts will be in a position to answer the card grinding question after his plant has been on rayon staple fiber somewhat longer, he said.

It was Mr. Brannan's opinion that a card is dulled by this foreign matter in the stock hitting the wire, and he said that rayon does not have foreign matter in it. Also, according to Mr. Brannan, the finer the wire the quicker the wire will dull. He considers that the grinding periods of cards depends on the weight of the sliver and how many hours the mill is running per day. His own plant runs 120 hours per week and he has his cards ground every 14 days on cotton stock—when running rayon he maintained the same schedule. He believes that a mill can card rayon faster and get the same quality of work because in carding "you are trying to parallel the fibers instead of trying to clean the work." He brought out that it is easier to parallel short fibers than longer fibers, and added, somewhat conflicting with the preceding sentence, that "slow carding helps out on the drawing." Furthermore, he changes the emery fillet in plenty of time, in his own case the change being made every six cards regardless of whether it seems to need it or not, and on the drum grinder every 25 cards. He reported that in one instance he increased the breaking strength of yarn four pounds simply by keeping the cards sharp and properly set.

The next question asked what causes flyings to come out at the sides of screens around the cylinder on cards.

Reported by John C. Fonville.

but no one ventured an answer. In attempting to interpret the question, the chairman asked "would it be a screen not set properly or is this just common to some particular card this man has?"

Creeling Drawing

The fourth question was on methods of creeling drawing, all at once or as the cans run out. Frank D. Lockman, Monarch Mills, Lockhart, S. C., vice-president of the STA, who has drawing cans equipped with springs in the bottom, said that his mill creels all cans at one time. He has tried creeling every way in the world and from experience he considers that solid creeling is better for his plant. He has less trouble with the drawing frame tender lapping up ends, and he believes that in general he gets better work by this method. Another member was called on, and as his mill is equipped with 5-roll drawing he said that "the more one-handed drawing frame operatives I can get the better."

J. E. Robinson, Kendall Mills, Camden creels 50-50 and explained that he creels the rear cans full while those cans next to the frame are not full because, as he contended, "if all of the cans are full you will have breaking back. Also," he went on, "you get more evenness in the work by creeling 50-50." When his back cans have run down somewhat and the cans next to the frame are out, he pushes the back cans up next to the frame and creels full cans at the back.

The chairman said, "I believe you have something there!" And for the benefit of the record 50 years from now, this is 1940 colloquialism for "that's a good idea". Mr. Brannan also considered this a good idea and brought out that the drawing from top and bottom of the can is not the same as to evenness. He creels three cans at a time on the same delivery by the system described by Mr. Robinson, saying that this keeps the drawing pretty well at the same tension throughout the creel, but that it is satisfactoy to creel solid (all at one time) provided there are springs in the bottom of the cans. On a show of hands it was found that many of the carders present use springs in their drawing cans.

Beater Speeds on Rayon

In a discussion of the maximum and minimum beater speeds that are practical on rayon staple fiber, Smith Crow, Drayton Mills, Spartanburg, said that at his plant best results have been secured with a minimum speed of 600 rpm and a maximum speed of 1,000 rpm. He said that much depends on the type of stock that is run, the length of staple, percentage of blend, etc. On 1½-inch staple, 100 per cent viscose rayon staple fiber, he uses a porcupine or buckley beater at 600 rpm, a carding beater at about 900-1000 rpm, with a blade beater between these two and at a speed somewhere between 600 and 1000 rpm.

Snapshot by John C. Fonville of "Cotton"

Left, W. T. Morton, who was elected general chairman of the South Carolina division; right, W. W. Splawn, new chairman of the carders and spinners division of STA

At this point a representative from a mill was called on to give his opinion as to the speeds that should be run in the picker beaters, or to tell what his speeds are, and the man said that inasmuch as his mill was only processing about 200,000 pounds of rayon staple fiber weekly, he could not offer an opinion, and that he had come "to learn what others were doing." The meeting became quite spirited for a few minutes, with those men that have usually been free with contributing their information and taking an active part in the discussions criticizing the men that refused to impart anything to the proceedings; and those not caring to participate but only coming to "learn" suggesting that some of the others talk too much. When the tension had been eased, the party coming to the meeting only "to learn" admitted his plant has ordered new rayon staple fiber cards and pickers especially designed to run cut staple.

The question of maximum and minimum speeds for running rayon staple fiber also was asked for with reference to the licker-in on cards. Mr. Brannan said that he has secured best results with a licker-in speed of around 350-75 rpm by actual test as to ends down in spinning and warp breaks at the loom. He cautioned that it is very little use to take care of rayon staple fiber at the card unless the other processing equipment is to be set accordingly so that the good work at the card will not be in vain. Mr. Brannan also emphasized that the slashing operation on spun rayon is the most important detail in the entire manufacturing process.

Next discussed were buffing periods on cork rolls on roving frames. A member that has shell ball bearing rolls said that his rolls when bare are 31/32-inch and finish 1 3/16-inch when the cork cot is applied. He gets three buffings over a life of two years when running three shifts on his cork rolls, and said that if he buffs more then trouble develops. Mr. Brannan, who runs 1.50, 4.5, and 5.25 hank roving on two roving processes, buffs every six months whether the cork rolls need it or not and he gets about four or five buffings over a 2½ year period. He considers it wise to cut the cork cot off after this many buffings. The foregoing applies to buffing the front line, but the back and middle lines are buffed once a year, with an average life of about five years.

Buffing Cork

John Caughman buffs his cork rolls every 60 days and gets three buffings; he buffs all lines of rolls at the same time. He uses the 1 1/16-inch cot, making 3.15 hank roving, but buffs very lightly each time. It was generally conceded that the buffing period depends on such things as hank roving, type of cot, twist, etc.

In answer to a question about the buffing period of cork cots on long draft roving equipment, H. R. Brock, Whitinsville Spinning Ring Company, said that he had seen cork used on long draft roving and the buffing period was every two weeks, but qualified his statement by saying that the question of buffing period takes in a lot of territory as there are so many variable factors. He added that the mill that formerly used cork cots had since adopted a synthetic roller and the buffing periods were further apart. This reminded Mr. Brannan that he uses a white synthetic roll on some of his roving frames and he said that they have been in use for 14 months and have never been buffed yet, and it seems that they run better the longer they are in use. His front roll speed is 204 rpm. Another mill man reported that on his Model J long draft frames he buffs his cork cot every 90 days.

The last carding question asked which system of tinting rayon for identification purposes has been found most satisfactory. A member reported having the system that tints and lubricates the stock at the hopper using it for rayons other than acetate, which comes to the mill in a tinted condition. William Uhler of Borne-Scrymser Company was called on and he told of his company's system whereby the stock is tinted at the hopper in order to give a uniform tint at the very beginning, which also lubricates the stock. He mentioned the vat dyeing method also, but said that it gives trouble.

Mr. Stutts reported three methods that could be used: tinting at the back of the hopper as already described, tinting under the beater of the picker, a process designed by Texaco, and buying the rayon staple already tinted. Mr. Stutts said that in tinting at the hopper and running only one type of rayon or blend it is nice to use this hopper system without cleaning out the hopper, but that if you are changing frequently then the system of tinting and lubricating at the picker beater is good. He advised the members to check into the various systems before using any of them, but added that either the hopper or beater system would give a good tint.

W. D. Creswell, Springs Cotton Mills, asked if anyone had tried tinting on the front of the card, which system he said gets away from making waste. Mr. Stutts considered tinting at this point to be a disadvantage as the various stocks may become mixed if they are not tinted prior to the card. The chairman added that the nearer the bale the stock is tinted the better it is.

J. Manning Bolt, Chadwick-Hoskins Company, Charlotte, told of tinting by running the stock through the finisher section of a picker first, with the tint being dripped on at the calender rolls. By this system, the beaters are run slower and the lap is not formed, but the stock piles on the floor, and from there it is placed in a bin to age and dry for from 12 to 24 hours so that stock will process better and not be in damp condition. Mr. Bolt said that his plant runs 1¼ denier and 1⅞-inch staple, making 57s warp and 74s filling of rayon staple fiber on this system.

Spinning Discussion

"What variation in yarn count do you find on conventional draft spinning from roving made on long draft roving frames" was the first spinning question. W. T. Morton said that he has been in some mills equipped thusly and they seemed to be getting good results, but on jobs that he has run the conventional spinning did not run as well where there was long draft in the card room, but he added that if there is both long draft in the card room and long draft in the spinning room, then the work runs satisfactorily.

As to variation in spinning, W. W. Cobb, Norris Cotton Mills, Cateechee, S. C., said that there should be no more variation than one number, when running print cloth numbers, unless something goes wrong. Frank Lockman considered a variation of not more than 10 per cent to be good. Mr. Morton brought out the fact that the mills must consider the grade of cotton that is being run when calculating what the variation should be, and said that about 85 per cent of the cotton bought is not standard. John Lockman, Monarch Mills, Lockhart, suggested that the members answer definitely and quit beating around the bush on the subject of variation, and he contended that he could go into almost any spinning room and find variations of from one to five numbers where the mill runs print cloth numbers; but this does not apply to combed stock.

Mr. Stutts considered that the study of variation in numbers is off the track unless a statistical method is used. He suggested that the mills should take a certain number of breaks and then take into account the number of breaks above and below the standard or average and not the extreme cases, but must consider the "frequency" from the standard break. [This procedure is in line with the system described by Harry H. Purvis of Chicopee Mfg. Corporation, Gainesville, Ga., and as used by that plant. This was described briefly in the April number of COTTON, and this magazine expects to carry a series of articles on the subject by Mr. Purvis in the near future, as soon as Mr. Purvis returns from an assignment in South America.]

Cockle Filling

"What causes filling to cockle on long draft spinning?" was next on the prepared questionnaire. Mr. Morton, who has had experience on many different types of long draft spinning, said that on the apron-types of long draft if cotton or waste gets under the apron it will cause cockle yarn. Also, on long draft that is run single in the creel, a bad place will be made if a tail is left on the roving in piecing-up caused by the drafting as the stock passes under the little roll and the tail jumping-in and making a soft place. The chairman said that he has seen the same thing on conventional spinning; and another member contended that some of the things termed cockle yarn are in reality undrafted roving. Mr. Morton added that if the bands, cradle and rolls are kept clean on long draft spinning there will be little trouble from cockled yarn.

Suspended Bobbin Holders

In a discussion of experience with the ball bearing, suspended type bobbin holders in spinning creels, W. W. Cobb reported that when used on print cloth numbers in connection with overhead cleaners, the roving in the suspended bobbin holders tends to be blown around and to turn too fast, causing trouble. "Otherwise, if they did not cost too much they would be okeh," he added. One man present reported that this trouble of the roving bobbin being blown around is not encountered on coarse roving numbers.

Suction pipes on B-C automatic spoolers were next discussed. Mr. Morton reported his experience with them as being "wonderful". He would not want to be without them as it takes away the loose fly and lint and is a great benefit to the health of the operatives, besides removing the little tail ends that occasionally crop up on spoolers. Frank Lockman installed the suction pipes on his spoolers both to remove the three and four inch ends that go into the weaving and to provide better working conditions for the operatives, reporting satisfactory service from both standpoints. He said that the suction pipe removes 90 per cent of the poor work that comes from the spoolers. Mr. Hammond asked about the location of the suction pipes on the ground floor of the mill, and a member who has seen a home-made suction device explained that the one he saw was all on the floor and it was not necessary to cut through the floor to dispose of the waste; bags were provided so that waste collected in them, and the bags were emptied at regular intervals.

Overhead Cleaners

In a discussion of whether overhead cleaners are proving their worth in spinning rooms, all men reporting said that they were satisfactory and well worth the investment. In fact, one man advised that they were paying for themselves in his plant. It was brought out that the work that the spinners had to do in cleaning before the overhead cleaners were installed is now greatly reduced since overhead cleaning installations. John Lockman, who has the creel type, said that he does not see how a man can run a long draft spinning room without overhead cleaners. Mr. Hammond considered them one of the greatest things in the spinning room for the amount of money invested.

CURRENT TEXTILE TOPICS

May 20, 1940.

Economics bows to war politics

REVIEWING the textile situation and outlook in the latter part of May, one found confusion worse confounded in general business to be dominating the markets. The activities of the mad man of Europe were pervading economics over a large section of the world, including the United States. Economics were under the thrall of war politics. Indeed they had been subject to German politics almost continuously since March, 1938, or before.

Cotton mills, along with all American industry, gained a short respite from the dulling influence of uncertainty because of war fears from the spring of 1938 to the fall of 1939, when the war actually broke out. After the "constructive" effect of this incident had spent its force, in the spring of this year, industry was thrown back upon prospects in domestic business for its reliance in the future.

When May was reached, the undercurrent of fundamental conditions was favorable. But then came another phase to the war that proved demoralizing. While domestic business was apparently headed for a healthy forward movement, with steel operations making a sharp upward turn in the first part of May, German invasion of the Low Countries suddenly caused a national apprehension that obscured normal developments.

Abnormal status becomes usual

Since economics has been subservient to the influence of war, or threatened war, politics for more than two years, abnormal conditions for industry have become usual. Nevertheless, until the fears of a rapid German conquest became rampant in American business during the second week of May, the prospects of something like normal domestic trade were beginning to indicate a recovery for the cotton mill industry through sound general conditions.

Heavier retail sales of cotton merchandise the first part of May were hailed in the gray goods market as encouraging for a pick-up in mill business. Substantial orders were coming to converters for finished goods. Thus agitation was strong against pressing by mills for orders. It was indicated that a period of active distribution was no time for trying to force business, since concessions are the only means to that end and goods going into consumption obviously must be replaced later.

April business, moreover, had put the mills in a generally good statistical position. Even if backlogs at the end of the month were not sufficient to extend operations, they showed some improvement and the mills had been able to dispose of stock accumulations made in the first quarter of the year. This was significant with the level of operations for four months averaging much higher than that a year previous.

Industrial cloths promise activity

Both domestic and the foreign conditions augured broader business in industrial cotton fabrics in May. The shipments abroad of aircraft and motorized equipment alone was calculated to boost buying of such goods as tarpaulins and other coverings for one thing. There was also prospect that cotton constructions would displace burlaps for bags, because of a bullish situation in jute products. General progress of home industry, furthermore, means activity in heavy cottons.

Discounting the overshadowing of war, the domestic situation as a whole has not been painted for many a long day more hopefully than by Dr. Claudius T. Murchison, president of the Cotton Textile-Institute, at the spring meeting of the American Cotton Manufacturers Association. Outstanding was the statement that "the gloomy forebodings and prophecies which filled the air in January and February have failed wholly to materialize."

His allusion to the growing prudence in administration of mill policies indicated that the printcloth division has not been discouraged by the action of the Department of Justice. The trial on charges of violation of the Sherman anti-trust law is yet to be held. It is certainly to be hoped that an industry as a whole will not be penalized for taking sound action to relieve panicky conditions.

World cotton markets upset

Since raw cotton has been subject to control and not to natural economic forces for several years, it has not been a normal factor since way back in the market for textiles. But the shake-down in cotton prices which developed in the middle of May obviously was too drastic not to have an unsettling influence upon the goods trading and values of mill products.

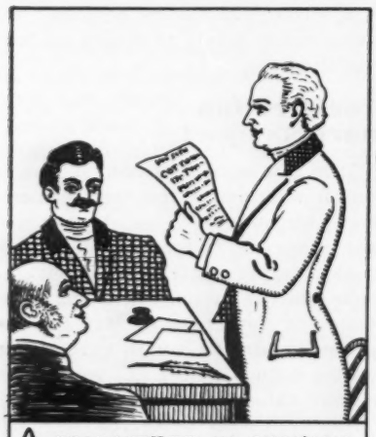
War influences make the long-term outlook in cotton one which will lend little support to the goods market. Dislocation of trade in European countries is cutting off markets for American cotton. Dislocation of exchange rates is promoting further expansion of other world cotton crops, in spite of abundance. Thus American cotton faces keener competition outside domestic markets.

A trio all set for sun and the seashore—photographed at the Kodak Building at the World's Fair The three bathing suits shown were all made of acetate rayon, and are included in a wide group of fashions presented at the fair daily by Tennessee Eastman Corp. . .

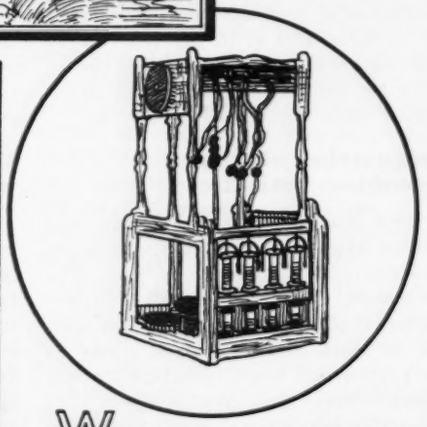
TEXTILE HIGHLIGHTS, by Henry McCarn

SLATER MILL IN PAWTUCKET, R.I. WHERE YARNS WERE FIRST SPUN BY MACHINERY IN 1793.

NOW A MEMORIAL MUSEUM HONORING SAMUEL SLATER ENGLISH MECHANIC.



A COMMITTEE IN CHOWAN COUNTY, N. C. PROMOTED SUBSCRIPTION FOR THE ENCOURAGEMENT OF COTTON MANUFACTURERS TO COME SOUTH...1775.



WATER POWER SPINNING FRAME. FIRST MACHINE TO BE DRIVEN BY POWER AND TO SPIN NUMBER OF COARSE COTTON WARPS OR WEFTS. INVENTED BY RICHARD ARKWRIGHT, 1768.

New England Mill Situation

COTTON manufacturers of this district continued in May to wait for constructive forces in general as the impetus to the expected better business in the second half of 1940. Along with all economic groups, they were facing the anomalous world situation that has obstructed progress for more than two years, by the uncertainty surrounding normal affairs. The mills have maintained a fundamentally sound policy through these years.

After the April spurt had given a fair amount of business, the market for fine and other cotton goods settled back into the doldrums. The vigilance of mill executives toward production, in the meantime, kept stocks well in hand. Operations in May were running around 60 per cent of capacity. By reason of caution against goods accumulation, prices were resistant to pressure for concessions.

By the middle of May, there was a noticeable improvement in general business sentiment of the district, as reflected by reports to the New England Purchasing Agents Association. This was the recovery forecast early in the year. It was believed based upon conditions that presaged another sustained rise, although the new phase of the war in Europe tended to obscure its importance.

Mills show gain on 1939

In spite of curtailment, the mills in April resumed a relative gain over the same period of 1939, after falling behind during March. March ran into comparison with a spurt last year. Cotton consumption of New England in March was 68,423 bales, as against 84,922 for the month of 1939. The April figures reported by the government were 72,525 and 67,899 bales, respectively.

Slow business early in the year had caused a sharp reduction in mill operations during March. This reduced to small compass the relatively high rate for the first two months of the year as mills continued to fill the large fall orders. Cotton consumption for the first three months of this year was up 2.8 per cent on that in 1939, at 237,994 against 231,483 bales.

Massachusetts mills, accounting for more than half the total this year, consumed 122,701 bales in the quarter against 112,440 in 1939, for a gain of 9.1 per cent. Connecticut had the notable gain of 21.8 per cent, at 18,245 compared with 14,983 bales. Maine showed 39,953 against 38,896 bales, up 2.7 per cent. New Hampshire was down 20 per cent, at 27,165 vs. 33,964 bales, and Rhode Island 1.9 per cent, at 27,992 vs. 28,530 bales.

Curtailment plans checked in April

Activity of trading in cotton goods the first part of April was sufficient to check ideas of drastic curtailment, although New England mills did not benefit as much as the other sections. They did at least get enough to keep the plants running around 60 per cent of capacity. The lag the latter part of April and in May again produced a spirit of caution.

Manufacturers have learned the lesson that they often, or usually, run into the need for liquidating stocks under the times of unfavorable market conditions when they are carrying an excessive amount. Thus at the end of April they were questioning whether the recent increase of orders would eliminate the need for more curtailment or merely postpone it. May business confirmed the wisdom of caution.

Meantime, the matter of regulated output in Massachusetts continued a moot subject. At the time of this writing, a report was in hand that a committee had been working on a plan for solving the three-shift issue. It was also stated that James T. Moriarty, State Labor Commissioner, had called a joint conference of mill representatives and employees for June 7 to take action on the question.

Among the interesting recent developments in mill merchandising is the Pacific "Factag". This is a new label attached to many lines of Pacific Mills which is a frank attempt by one of the largest textile companies in the world to give the consumer concise information about the fabric he buys.

Pacific Mills also has introduced a revolutionary idea in sheets. It is a line of sheets which fit over the ends of the mattress and thus cannot be wrinkled by restless sleepers. Wrinkling has long been a cause, in fact, of restlessness, something that "No-Tuk" sheets is calculated to allay.

"THE SITUATION" as seen Across an Executive's Desk

May 18, 1940

SUDDEN developments in war-torn Europe make any effort at reviewing our domestic textile situation seem puny and futile to anyone who considers at this time the portents of the invasion into Holland and Belgium. For a time at least, and perhaps forever, the textile industries of those countries are silenced, and it is up to America to prepare to supply the markets previously supplied by these textile manufacturing countries of Europe. This may be temporary, but in these dark days it seems to be permanent.

The Blitzkrieg in Holland followed a month of exceedingly quiet, practically stagnant, business in American textiles. Then, topping the invasion of the Lowlands, days went by with absolutely no domestic business developing in our industry. May 15 saw 5,000,000 yards of goods sold on Worth Street at prices which were at least ⅛ of a cent yard average below mill prices. These orders were felt to be coverages on contracts only and bore no relation to the actual market conditions.

In the meantime, the raw cotton market had plummetted downward under the pressure of war hysteria and almost every far-sighted manufacturer refused to sell goods on forward delivery based on war-time cotton prices. Indications are at this time that, due to lack of export business created by the war, raw cotton will command new lows with the harvest of the new crop. But any "future forecast" about our or any other business is subject to change as the progress of the German invasion is followed.

Despite the absurdly unlucrative market conditions cotton mills in this country have operated at a comparatively high rate since January, 1940. Output of cotton cloth and yarn exceeded sales and backlogs of unfilled orders were further reduced by May 1. The seasonally adjusted index of mill activity was about 134 per cent of estimated normal during early May compared to 130 per cent a month earlier and 122 per cent at the same time 1939. Mill margins or the difference between the price of cotton and its approximate cloth equivalent averaged 11.4 cents in April against 11.6 cents in March and 10 cents April a year ago. The 10-year average margin for April was 12.1 cents. The Federal Reserve Board reported the dollar volume of department store sales for the four weeks ending May 4 as 4 per cent larger than a year earlier.

Cotton Exports

Sales and deliveries of cotton products under the export program from its inception on July 27, 1939, through April 30, 1940, totalled 6,278,000 bales. The total includes manufactured cotton products equivalent to 425,000 bales of raw cotton. A report from the various regions from which the cotton was being exported to European countries under this program was that much of it in the last two months has been returned as, due to the blockade, ships could not be landed nor the cotton unloaded. One interesting point in connection with this, however, is that a considerable amount of the cotton had not actually been sold to foreign powers before export, but was being shipped consigned to the shippers themselves who benefited through their own deal to whatever extent per pound the subsidy was listed at the time of shipment.

There is a possibility, and a very strong one, that under a war emergency program considerable cotton textiles will be bought by the government in addition to a large WPA purchase which has already been contracted for.

The Oil Case Decision

One of the most important things to affect the status of textile association work was the Madison Oil decision by which the Supreme Court gave the anti-trust laws a new lease on life. While the Supreme Court had a 50-50 opportunity of basing its decision on the Appalachian Coal Case or the Trenton Potteries Case, it chose the latter, and its decision was that no matter how reasonable a proposition sounded to obtain better prices, the effort to obtain better prices was monopolistic. The Supreme Court held that under the Sherman Act any combination to control prices or stabilize the price of a commodity in inter-state commerce or foreign commerce is illegal. It held that such action is unlawful even though it may be intended to benefit a whole industry. The Madison case was the keystone to Assistant Attorney General Thurman Arnold's anti-trust drives, and, having won, it is said that Arnold's enforcement drive will be limited only by the amount of funds appropriated by Congress for the purpose. It is recalled that in January, speaking to the textile industry, he mentioned $2,000,000 as a working fund for anti-trust enforcement.

• **Miss Nettie Grace Cameron of Polkton, N. C., dressed in an attractive cotton dress of blue and white checks, was adjudged the Grand Prize Winner in the 13th annual Style Show held at North Carolina State College on April 25. Miss Cameron, a junior at Flora Macdonald College, Red Springs, N. C., was the unanimous choice of all six judges, and was the second Flora Macdonald College student to win the Grand Prize since the Style Show was inaugurated by Dean Thomas Nelson in 1928. Miss Cameron's fabric was designed and woven by G. E. Fry and J. B. Tatum.**

Willard R. Culber, staff photographer of the National Geographic magazine, spent two days at the College making color photographs in connection with the Style Show, for use in a future issue of the magazine to illustrate an article on cotton.

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The textile industry is peculiarly tied up in this Madison Oil case on account of the Print Cloth Group indictment, and every indication now is that this case will be pushed to an early conclusion and that the best tack for the Print Cloth Group to take is that of *nolle contendere*.

The Chain Store Bill

Getting away from the judicial end into the legislative angles of the past month we should touch on the probability of the Patman anti-chain store bill. Appearing before the House subcommittee holding hearings on this proposed legislation, Dr. Claudius T. Murchison stated that enactment of the bill would be a calamity of the first magnitude to cotton farmers of the United States, to the textile industry, and to consumers of cotton goods. He pointed out that the large scale buying movements and merchandising programs such as undertaken by the chain stores would, if eliminated, wreck havoc on our industry. There is no doubt but that the chain stores govern tremendous volumes of cotton goods and that

quick turn-over is desirable in this time of high competition.

But, on the other hand, the textile industry suffers through regulation of its prices by the low brackets set up by the chain stores for their trade. It is the chain store price brackets which have squeezed manufacturing margins to a point where they are completely negligible.

Cotton Week

Once again we faced National Cotton Week and this year we are happy to report it was bigger and better than ever. Tremendous advertising outlets have been obtained through the co-operation of the Cotton Consumption Council; more retail stores than ever were lined up on individual advertising programs; and the nation as a whole has come to accept Cotton Week as the week out of the 52 in which they should stock up on domestics, household goods, as well as sporty wearing apparel. Worth Street was very gala with banners streaming across it and tremendous publicity was being given to the event throughout the country.

One of the most important festivals in connection with Cotton Week was the Memphis (Tenn.) Cotton Carnival which got under way in a bigger and a more elaborate manner than ever before. Other communities throughout the South planned similar festivals extending through the month of June, the elaborateness simply being in ratio to the financial capacity of the community and other circumstances of a local character.

The Cotton Stamp Plan

Also in Memphis the first cotton stamp plan went into effect on May 9. Only 200 patrons were permitted to buy the stamps the first day and several hundred clients were turned away as it was not their day to apply for the stamps. However, by the end of the week approximately 12,000 persons had been found eligible for stamps and were speedily converting them into cotton goods. Despite Milo Perkins' enthusiasm over the success of this plan some cotton experts call attention to the statement made by the New York Cotton Exchange Service that only 550,000 bales of cotton would be consumed if the government bought an assumed $2,000,000 worth of cotton goods for distribution under the plan—only about 8 per cent of the country's annual consumption. The Cotton Exchange Service also stated that based on the imaginary figure of $200,000,000 at the cost to the government of $100,000,000, the cotton in such goods would have a value of roughly $30,000,000. The stamp plan might furnish the low income groups with clothing and might create employment, but it would be a costly method of removing the surplus since it would cost the government approximately $180 a bale.

New Textile Publications

Rodney Hunt Machine Co., Orange, Mass. Catalog No. 340 covering complete line of washers, including wood, stainless steel and a new model with laminated plastic top.

Wiremold Company, Hartford, Conn. A new folder on ways to speed work, reduce rejections and cut costs, designed to show the different ways in which industry can be served by the company's lighting and wiring equipment.

Taber Instrument Company, North Tonawanda, New York. Bulletin No. 4001 descriptive of the abraser machine for determining fabric wear.

E. I. Du Pont de Nemours & Co., Inc.. R. & H. Chemicals Department, Wilmington, Del. A new technical bulletin describing the chemical and physical properties of a new series of water-soluble vinyl resins.

Waltham Watch Company, Waltham, Mass. Unique folder descriptive of the company's Pickometer.

American Aniline Products, Inc., 50 Union Square, New York City. Combination Amapro union and celanese color chart for use on store counters and for route men. Price 40 cents.

Crane Company, 836 S. Michigan Ave., Chicago, Ill. Catalog illustrating and describing a complete line of steel valves and fittings. Contains engineering data pertaining to high pressure-temperature piping problems. No. 40-S.

Calco Chemical Division, American Cyanamid Company, Bound Brook, N. J. Technical bulletin No. 549 "Calconese Colors for Textiles" by Louis I. Fidell.

Westinghouse Electric & Manufacturing Company, East Pittsburgh, Pa. Several new publications of interest to textile industry. Leaflet descriptive of terminal blocks for use with enclosed switchgear, control, relay, and instrument panels, or any wiring that must be terminated conveniently. Four-page illustrated leaflet describing Type CR fractional and integral horsepower repulsion-start induction motors designed for heavy duty industrial service. 16-page leaflet on a complete line of dry type transformers, autotransformers, boosters, and phase changing transformers for applications where small KVA sizes are required. New 4-page illustrated literature on heavy duty magnetic timestarters for the control of constant and adjustable speed DC motors in machine tool and general purpose applications where occasional inching or jogging is required. 28-page illustrated booklet about general purpose impulse turbines for condensing or noncondensing service and designed especially for industrial and central station applications. New edition of "Artificial Light and its Application". 4-page bulletin covering the application of capacitors for power factor correction. 4-page illustrated literature describing a twin lamp fluorescent RLM type luminaire, designed for general or supplementary lighting in low bay industrial areas.

The Cotton-Textile Institute, Inc., 320 Broadway, New York City. Literature describing a new market for 90-inch 64x64 unbleached muslin sheeting.

American Tool & Machine Company, 1415 Hyde Park Ave., Boston, Mass. Information on the many specialized adaptations of the company's centrifugals for the widest variety of chemical processes.

The Skybryte Company, 3125 Perkins Ave., Cleveland, Ohio. Catalog on paints and materials for better maintenance.

Graton & Knight Company, Worcester, Mass. A new easy reference catalog on the company's textile leathers.

Rohm & Haas Company, Inc., 222 W. Washington Square, Philadelphia, Pa. 13-page booklet pertaining to crush resistance of textile fabrics. Leaflet descriptive of RHotex A-20 for textile printing, a new synthetic thickening agent developed especially for textile printing.

U. S. Department of Agriculture, Washington, D. C. "Standards for Appearance of Cotton Yarn" by Malcolm E. Campbell.

The Steel Improvement & Forge Company, East 62nd Street and Addison Road, Cleveland, Ohio. "Boiler and Tank Accessories", said to be the first complete catalog ever devoted exclusively to the presentation of accessories for fired and unfired pressure vessels.

Cutler-Hammer, Inc., Milwaukee, Wis. Bulletin No. 9586 announcing improvements in the across-the-line starters for the control and protection of polyphase squirrel cage motors up to 5 hp.

Glyco Products Company, Inc., 148 LaFayette St., New York City. "Chemicals by Glyco", a 96-page booklet.

American Society for Testing Materials, 260 S. Broad St., Philadelphia, Pa. 152-page publication "Index to A.S.T.M. Standards including Tentative Standards".

The Felters Company, Inc., 210 South St., Boston, Mass. Booklet descriptive of Unisorb, an improved and specialized version of felt, and its use in industry. Has special reference and illustrations of its use in the textile industry.

Napthole, Inc., 416 Division St., Boonton, N. J. Pamphlet descriptive of Quix, Naptex and Luxolene finishes.

Republic Flow Meters Company, 2240 Diversey Parkway, Chicago, Ill. Data book No. S-21 on the Republic-Smoot automatic combustion control for boilers, a text on the subject of combustion control.

Magnus Chemical Company, Inc., Garwood, N. J. Case history of specialized industrial cleaning materials and methods.

Elliott Service Company, 219 E. 44th St., New York City. "How to Instruct", practical pointers for department heads, supervisors and foremen. Price single copy 12 cents; 10-25 lots ten cents; 100, eight cents each.

The Miller Company, Meriden, Conn. "Artificial Daylight for Textile Mills", an engineering study.

Textile Machine Works, Reading, Pa. Statistical folder survey covering the full-fashioned knitting industry in the United States for the year 1939, giving such information as installation of new machines as to territories, production of machines according to gauge, moving of old full-fashioned equipment, etc.

Walker Electrical Company, Atlanta, Ga. Catalog No. 17 containing listing of floor boxes and pedestals for loom switches and other textile applications.

Ciba Company, Inc., P. O. Box 25, Station C, New York City. Several publications and sample cards illustrating new products and processes. No. 515 on Chrome Fast Blue BG, Chrome Fast Blue B2G and Chrome Fast Blue 2RB. No. 520 on Coprantine Brown RL. No. 522 introducing Cibacete Discharge Blue 3GN and Blue 3R. Sample Card No. 1551 treats of Cibanaphthol and bases in piece dyeing and printing. Sample Card No. 1725 for company dyestuffs on acetate rayon and mixed fabrics containing acetate. Sample Card No. 1750 illustrates spirit soluble dyestuffs. Sample Card No. 1755 for direct, Chlorantine Fast and Rigan dyestuffs which reserve acetate rayon. Sample Card No. 1760 for direct colors on cotton yarn. Sample Card No. 1770 for Neolan colors on wool yarn. Sample Card No. 1775 for acid Alizarine colors on wool pieces. Sample Card No. 1777 for acid and cloth fast colors on viscose rayon. Sample Card No. 1781 on Cibacete printing colors.

U. S. Electrical Motors, Inc., Los Angeles, Cal. "Design and Operation of U. S. Single Phase Motors".

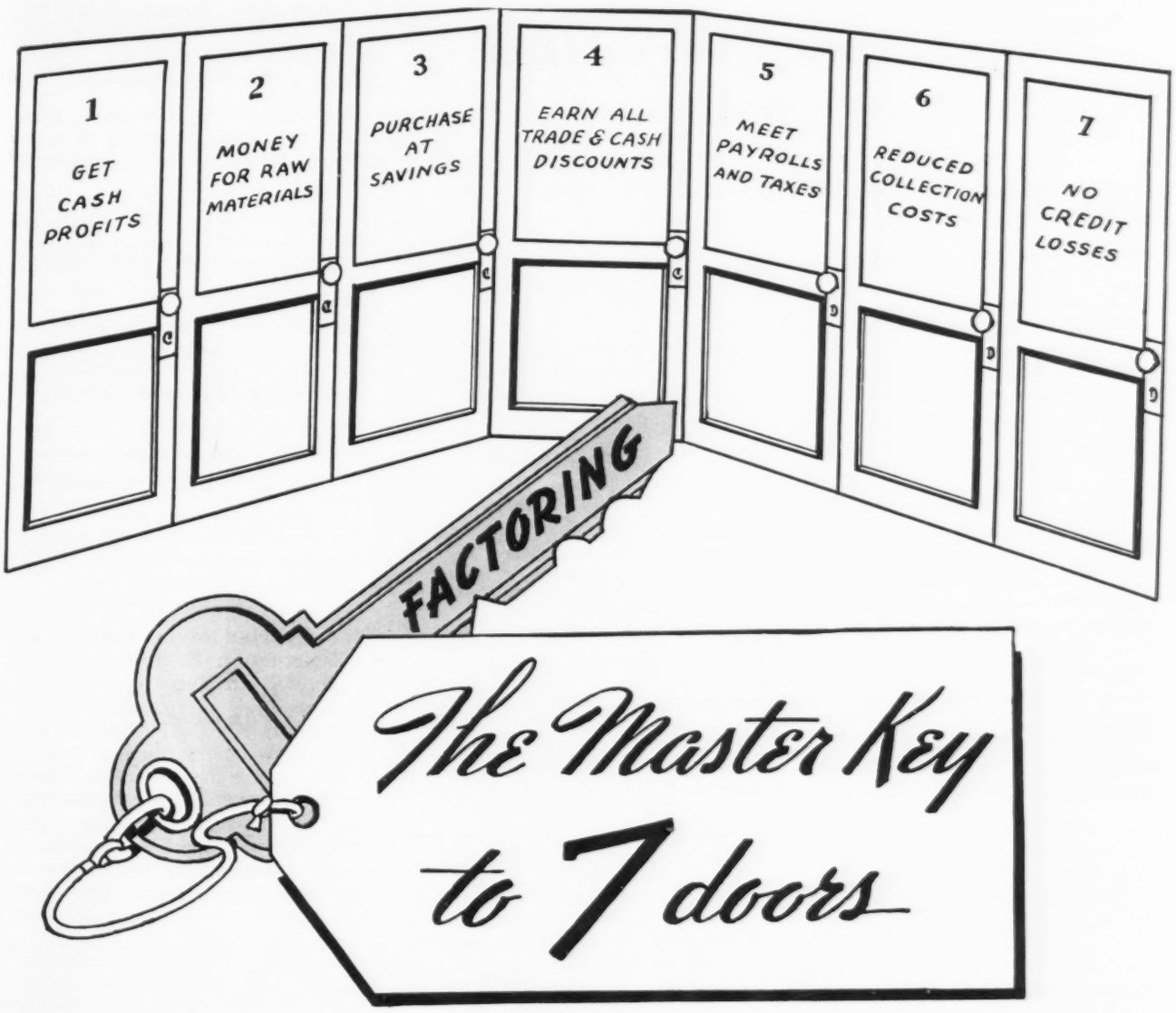
The B. F. Goodrich Company, Akron, Ohio. Catalog section on the line of Plastikon rubber putty, adaptable to many uses in building and industry, especially adaptable to textile industry.

The Fafnir Bearing Company, New Britain, Conn. Catalog No. 35X containing information helpful to any user of bearings.

Amplex Division, Chrysler Corporation, Detroit, Mich. Literature descriptive of Oilite, the oil cushion bronze bearing.

The Fostoria Pressed Steel Corporation, Fostoria, Ohio. Literature descriptive of para-sphere reflector to accommodate infrared lamps.

Reliance Electric & Engineering Company, Ivanhoe Road, Cleveland, Ohio. Bulletin No. 125 on the fully-enclosed fan cooled induction motors for two and three-phase alternating current circuits.



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AGGREGATE RESOURCES OVER SIXTY MILLION DOLLARS

What the Southern Mills Are Doing

J. E. Sirrine & Company, consulting and designing engineers, Greenville, S. C., have announced several improvements to textile mills. Plans and specifications have been released for an extension to the uptown warehouse of Springs Cotton Mills, Lancaster, S. C. The building will be approximately 75x 62 feet, with wood framing, brick wall, tongue and groove roof, steel sash and 2000-pound freight elevator. The first floor and rear half of the second story will be used for storage and the front half of the second story for a general office. Southern Bleachery & Print Works, Inc., Taylors, S. C., will install sprinkler system in the second story addition, which will be 106x314 feet, with two monitors. This building will have brick wall, steel sash, cast iron columns, steel beams, and tar and gravel roof, costing about $50,000. Watts Mill, Laurens, S. C., will put in a new sewerage system in a portion of the mill village. The work includes laying approximately 3⅓ miles of 8-inch terra cotta pipe and 3¼ miles of 6-inch terra cotta pipe, and necessary manholes, etc.

Construction will start at once on the two-story extension to the Arcade Mills, Rock Hill, S. C., J. E. Sirrine & Co., consulting and designing engineers of Greenville, have just announced. The building contract was awarded to Daniel Construction Co., Birmingham, Ala. It calls for two stories, 26x80 feet with a one-story 10x60 feet, covered passageway and will have brick walls, steel frames and sash, wooden floors, 20-year tar and gravel roofing.

Candlewick Yarn Manufacturing Company, Dalton, Ga., has almost completed installation of machinery in the new plant. Two thousand spindles have been installed in a building formerly occupied by the Primrose Spread Company and will be used in producing yarn suitable for making chenille bedspreads.

Marshall Field & Company, manufacturing division, Spray, N. C., will install Fletcher rayon twisters, an automatic 40-inch Fletcher extractor and an automatic skein dryer manufactured by Philadelphia Drying Machinery Company. The orders for equipment were placed with F. W. Warrington Company of Charlotte.

Courtenay Manufacturing Company, Newry, S. C., has almost completed a modernization program costing approximately $225,000, which includes installation of new machinery in the carding and spinning departments, overhauling of looms, and other work outside the mill.

Benjamin Kahn Ribbon Mills, Attalla, Ala., have let contract for a modern brick and steel factory building to replace the one that was destroyed by fire several months ago. About a third more workers will be employed when the new building is completed.

Negotiations for the sale of the McComb (Miss.) Cotton Mills to the Crescent Machinery Corporation, Fall River, Mass., have been completed. It is reported that the new owners will offer the mill for resale.

Green River Mills, Inc., Tuxedo, N. C., will build a 100x135-foot addition to house twisting, reeling and winding equipment, with Potter and Shackleford of Greenville, S. C., receiving contract for the work.

Mayo (S.C.) Mills, Inc., are installing H & B long draft on all spinning frames. The company only recently installed 12 twisters and 24 spinning frames purchased from Bigelow Sanford Carpet Company.

Martel Mill, Egan, Ga., has been sold to Henry Chanin Corporation, Atlanta, Ga., dealers in cotton waste, for $37,500, the sale being negotiated by Adams-Cates Company, Atlanta.

Falls Manufacturing Company, Granite Falls, N. C., is reported to be planning a 100-foot addition to the No. 2 plant. Additional machinery will be installed.

Calhoun Mill, Calhoun Falls, S. C., has under way a $40,000 modernization program in the mill village, which includes a new community building, paved roads and paved sidewalks.

Cascade Rayon Mills, Mooresville, N. C., have expanded the cloth room, weaving and preparatory departments by the construction of additions to each department.

The two plants of Morgan Cotton Mills, Laurel Hill, N. C., have installed Jackson moistening atomizer humidifying equipment, the work being done by G. A. White & Co., Charlotte.

Pepperell Manufacturing Company, Opelika, Ala., will construct an addition to the weave room which will give 20,000 square feet more of floor space.

Startex Mills, Tucapau, S. C., has under way a $40,000 program of improvement to the mill and village, which includes much repainting.

Wiscassett Mills Company, Albemarle, N. C., are converting 88 warp spinning frames to Saco-Lowell long draft.

Abbeville (S.C.) Cotton Mills have installed a new 7-cylinder rayon slasher built by Cocker Machine & Foundry Co.

Plans have been completed for extensions to two buildings and construction of a cafeteria at the Celanese Corporation of America's plant at Celco, Va.

Glenn Manufacturing Company, Lincolnton, N. C., has installed Jackson moistening atomizer humidifying equipment.

Du Pont has installed two Carrier centrifugal refrigeration machines in its nylon plant at Seaford, Del.

First Quarter Rayon Yarn Production Establishes New High Record

Production of rayon filament yarn by American producers aggregated 94,700,000 pounds during the first quarter of 1940, a new high quarterly record for the industry, states the *Rayon Organon*, published by the Textile Economics Bureau. The figure represents a gain of one per cent over the previous record made in the last quarter of 1939, and 15 per cent over the first quarter of last year.

Production of viscose and cuprammonium yarn aggregated 63,900,000 pounds for the first quarter of this year, virtually equalling the all-time record of 64,200,000 pounds produced in the final quarter of 1939. The slight decrease in poundage is primarily explained by the fact that the average denier spun in the recent quarter was finer than that spun in the previous quarter.

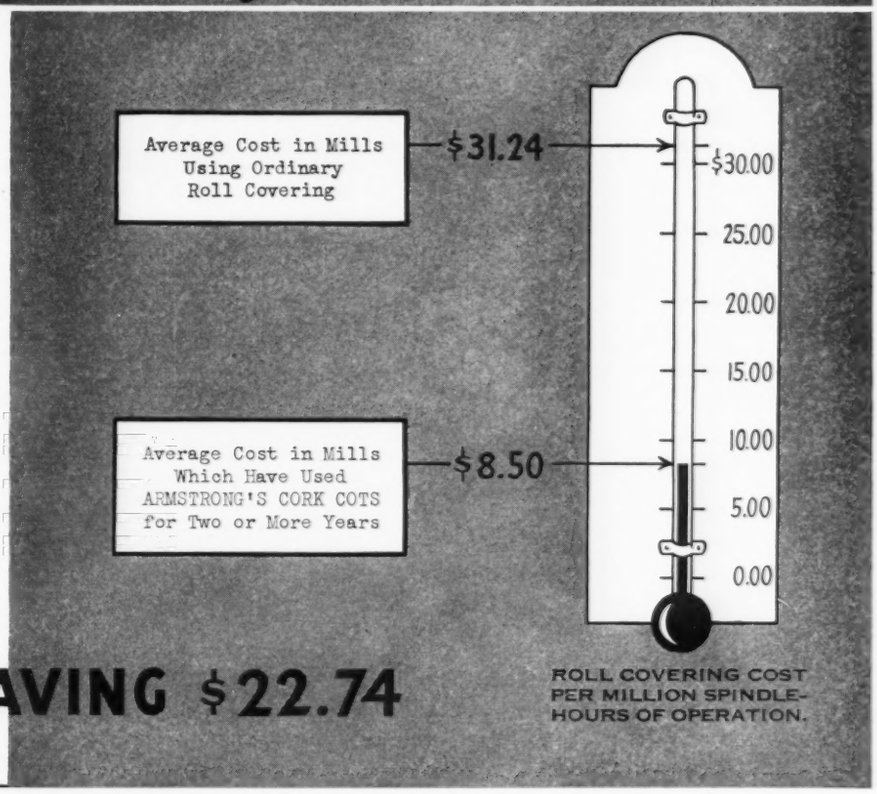
Output of acetate yarn amounted to 30,800,000 pounds for the first quarter of this year, a record high production for this branch of the industry.

Domestic staple fiber output amounted to 20,500,000 pounds for the first quarter of 1940, a new high record for the industry, exceeding the previous records of 16,700,000 pounds produced in the final quarter of 1939 by 23 per cent and the first quarter of 1939 production by 88 per cent.

Imports of staple fiber aggregated 9,000,000 pounds in the first quarter of the current year. This total represents a decline of 45 per cent below the level of imports in the fourth quarter last year and is lower than the imports for any 1939 quarter.

WHY MILLS TURN TO *Cork* FOR ECONOMY

HERE'S PROOF—from Mills Spinning *Medium Numbers*—of the economy of Armstrong's Cork Cots. (This advertisement is Number Three of a series showing savings of mills spinning different ranges of numbers on cork cots.)



AVERAGE SAVING $22.74

AND HERE'S A BREAKDOWN of actual roll covering costs as reported by representative mills which have been using Seamless Cork Cots for two or more years:

Mill	No. of Spindles	Numbers Spun	Cost per Million Spindle Hours of Operation	Type Frames
A	70.5M	8s - 26s	$9.89	Long Draft
B	30M	10s - 26s	9.59	Long Draft
C	15M	10s - 30s	9.25	Long Draft
D	17M	20s - 22s	5.26	Long Draft

HERE are facts in dollars and cents . . . proof of the cash savings so many mills enjoy by using Armstrong's Cork Cots.

The initial cost of these cots is no higher than that of ordinary roll coverings, and they're quicker and cheaper to assemble. Armstrong's Cork Cots are longer wearing, too; in addition, they can be rebuffed—at a cost of about ½¢ a roll per rebuffing—three or four times!

Furthermore, you can spin *better yarn* on these cots—for their higher coefficient of friction assures a stronger, more uniform product. Running of the work is also improved. You get less eyebrowing and end breakage, less clearer waste, and fewer top roll laps. From every standpoint, cork gives better service.

An Armstrong representative will be glad to show you production figures of mills spinning your range of numbers on cork cots. And he'll show you how *you* can enjoy worth while savings on roll covering costs. Armstrong Cork Company, Industrial Division, Textile Products Section, 923 Arch St., Lancaster, Pennsylvania.

ARMSTRONG'S *Extra Cushion* SEAMLESS CORK COTS

CORK PRODUCTS SINCE 1860

COMMENT on the COTTON MARKET

New Orleans, May 16, 1940

THE OPTIMISM, based upon prospects of domestic trade revival, prevalent one month ago, which was born of the resumption of naval and miliary operations in Europe and prospects that the demand for war essentials in the United States would continue, as then reflected in rising speculative markets, vanished with the turn of events following in the wake of the invasion of Norway, Belgium and Holland. As the Germans made favorable progress against France and England, optimism gave way to pessimism. Accordingly liquidation set in causing important declines in the value of securities, cotton and grain, the result of traders thinking in terms of possible if not probable world-wide economic implications of the German thrust through Western Europe, especially if the Nazis continue to gain ground in France in their apparent designs on Paris and the British Isles. The war fears were aggravated by the fall of Antwerp.

Expected higher taxes in this country to finance government defense spending and loss of foreign markets also were cited among reasons assigned for the hasty unloading of stocks and farm commodities. Reports of expanding retail volume were on the cheerful side of the business news and came from all sections of the country. But the war news overwhelmed these peaceful trade items marketwise.

Under the existing trying times abroad and the depression in American speculative centers, ordinary market influences such as crop advices, consumption, etc. are virtually lost sight of for the present, more attention being directed to news from the seat of war. It will be difficult to attempt to forecast nearby trade probabilities because of disruption of normal world trade by the spreading of the war and recent allied reverses.

The immediate effects of late war news were felt in wholesale markets, such as textiles, through curtailment of foreign buying. Merchants feared the declines in grain and cotton would reduce farm buying power unless commodities recover the losses before new crops move to market.

Of interest to the trade is the recent estimate of the Garside Service as to world's carry-over of cotton at the close of this season, July 31, 1940, with comparatives for last season.

July 21— Bales—	This Year	Last Year
American	12,815,000	14,030,000
Foreign	7,794,000	7,432,000
All Kinds	20,609,000	21,462,000

As regards the distribution of the carry-over of American at the close of July, it is estimated that about 10,581,000 bales will be in the United States versus 12,956,000 on corresponding date last year, and that about 2,234,000 bales will be outside of the United States compared with 1,074,000 on same date last season. The bulk of the increase in the carry-over of American Cotton outside of the United States, it is estimated, will be in Great Britain and on the Continent of Europe.

While the Allies appear to be in a serious position at present, they are hardly worse off than they were during the later days of the war in 1918 when the Germans were virtually on the outskirts of Paris which they could not reach, and it is possible that they may be held in check again in the near future. Should there be a turning of the worm henceforth, sentiment would likely become less pessimistic and may gradually change to optimistic, in which event prices for commodities would be found rising in active markets. Unless the war should come to an early ending, the government's great program for defense will likely redound to domestic trade betterment, and, as said before, any news of importance favorable to the Allies is apt to be reflected in the return of confidence and probably higher prices, particularly if the fortunes of war favor France and England in the future. In time of war, however, there is no telling what may happen from day to day.

CENSUS REPORT, MAY 14, 1940

United States— Bales—	This Season	Last Season
Consumption of lint in Cotton-Growing States, April	533,000	460,000
Consumption of lint in New England States, April	73,000	68,000
Consumption of lint in All Other States, April	18,000	16,000
Consumption of lint in United States, April	624,000	544,000
Consumption of lint in Cotton-Growing States, 9 months	5,070,000	4,362,000
Consumption of lint in New England States, 9 months	715,000	650,000
Consumption of lint in All Other States, 9 months	170,000	140,000
Consumption of lint in United States, 9 months	5,955,000	5,152,000
Mill Stocks, April 30th	1,470,000	1,293,000
Mill Stocks, March 31st	1,596,000	1,415,000
Stocks in public storage and at compresses April 30	10,743,000	12,976,000
Stocks in mills, public storage and at compresses April 30	12,213,000	14,269,000
Stocks in mills, public storage and at compresses March 31	13,000,000	14,893,000
Active Spindles in Cotton Growing States, April	17,017,000	16,817,000
Active Spindles in New England States, April	4,685,000	4,702,000
Active Spindles in All Other States, April	599,000	604,000
Active Spindles in United States, April	22,301,000	22,123,000
Active Spindles in United States, March	22,555,000	22,503,000

AMERICAN COTTON

August 1 to May 10— Bales—	This Season	Last Season
Brought into sight (marketed)	13,889,000	10,578,000
Exports from the United States, incl. Canada	5,973,000	3,240,000
Spinners takings, World	(*)	10,133,000

WORLD'S VISIBLE SUPPLY OF COTTON

May 10— Bales—	This Year	Last Year
Stock at all U. S. ports	2,655,000	2,068,000
Stock at 102 interior towns	3,236,000	3,901,000
Afloat to and at ports of Europe	(*)	652,000
Afloat to and at ports of Orient	350,000	169,000
Totals of American	(*)	6,790,000
Total of Other Kinds	(*)	2,400,000
Total of All Kinds	(*)	9,190,000

(*) Not available account of war conditions.

• John M. Mauney of Lincolnton, N. C., a senior in the Textile School, was signally honored at North Carolina State College's Scholarship Day exercises on May 2. Mr. Mauney was awarded the medal given annually by the National Association of Cotton Manufacturers to the most proficient Textile student in the graduating class. To receive this medal the institution must be fully equipped to give instruction of recognized standing in the manufacture and design of cotton fabrics. At the same exercises Mr. Mauney also received the Sigma Tau Sigma cup which is awarded to the textile senior who has the highest scholastic average.

Mr. Mauney is a son of Mr. D. H. Mauney, secretary and treasurer of Long Shoals (N. C.) Mills, and a brother of W. A. Mauney of the same organization, who graduated from the Textile School in 1937. Mr. Mauney has accepted a position with Washington Mills at Fries, Virginia.

An Idea that Worked

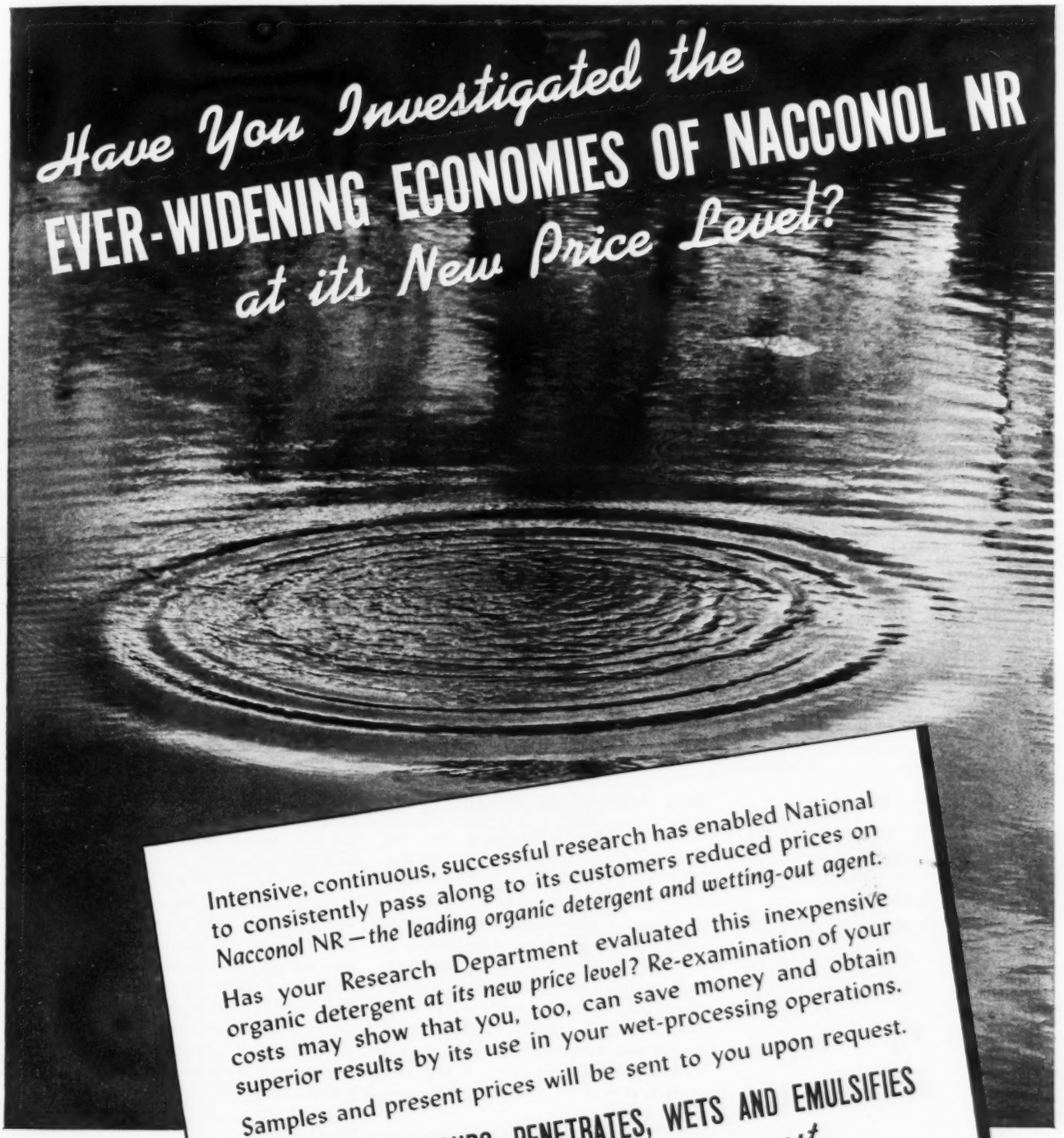
"The waste from around your spinning frames comes to the sorters in terrible shape," a textile mill superintendent recently said to his spinning room overseer. "Isn't there some way that you can keep it from getting under foot and being walked over? Some of it is so dirty that it can't be handled."

This overseer was an old hand, wise in the ways of dealing with people. He had several ideas of things that could be done, but he felt that if he just went to the women in the department and gave them orders to handle waste in a certain way it might be difficult to have his instructions carried out. So he decided to let them make suggestions on how the situation could be improved.

The overseer called the women of the department together and told them about the problem and asked them to think up some ways in which this waste could be kept off the floor.

The next day one of the spinners came to him with an apron in which housewives carry their clothespins while hanging out the washing. She told the overseer, "As I was hanging out some clothes this morning, I had on this clothespin apron with these two big pockets in it, and it struck me that it would be just the thing to wear on the job to stuff in bits of waste as I went along, instead of dropping them on the floor."

He immediately had waste aprons similar to the clothespin aprons made up for all the spinners and now very little waste drops to the floor.—"*Management Information*", *Elliott Service Co., Inc.*



Intensive, continuous, successful research has enabled National to consistently pass along to its customers reduced prices on Nacconol NR—*the leading organic detergent and wetting-out agent.*

Has your Research Department evaluated this inexpensive organic detergent *at its new price level?* Re-examination of your costs may show that you, too, can save money and obtain superior results by its use in your wet-processing operations.

Samples and present prices will be sent to you upon request.

NACCONOL NR SCOURS, PENETRATES, WETS AND EMULSIFIES
with high efficiency at lower cost

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NATIONAL ANILINE & CHEMICAL COMPANY, INC.

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NEW EQUIPMENT and MATERIALS

Water-Soluble Vinyl Resins

E. I. du Pont de Nemours & Company, Inc., R. & H. Chemicals Department, Wilmington, Del., have developed a new series of water-soluble vinyl resins, the poly-vinyl alcohols, which are said to have a wide range of applications to the dyestuffs field, as well as to other industries. The material, designated as PVA, has now passed the laboratory development stage and is available in commercial quantities. Films formed of the material may be employed to advantage in dyeing by capitalizing on its water solubility. PVA is available in a number of grades to meet individual requirements. The material is unaffected by oils, greases, fats, hydrocarbons and most of the ordinary organic solvents.

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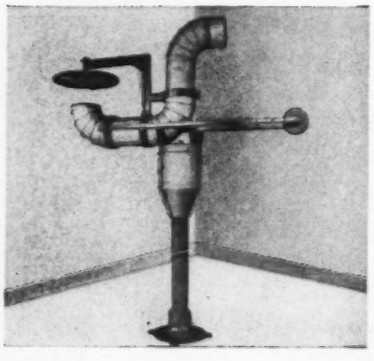
Motor Driven Truslow Blending Attachment

Curtis & Marble Machine Company, Worcester, Mass., has announced a new development in the Truslow blending attachment, a machine said to insure a superior mixing of the stock with a



saving in time and labor. On the new machine equipped with motor, the shafting which extended from the blending attachment in the center of the gauze room partition is eliminated; likewise the tight and loose pulleys on the end of this shaft. Since these pulleys had to be driven at a very slow speed of about 80 to 90 r.p.m., the new development is quite an improvement. On the new machine the totally enclosed vertical gear-motor is mounted at the top of the column and inside enclosing covers. This machine also eliminates the shaft which formerly had to extend across the gauze room.

Wheel Grinds Rubber and Leather Without Burning

Atlantic Abrasive Corporation, South Braintree, Mass., has introduced a grinding wheel which is said to grind

and smooth rubber and leather without danger of burning the work. The Type B.C. wheel is made with a patented synthetic bond that keeps the wheel cool under all conditions. The wheels are made in two tempers, one for grinding rubber only, and another that is excellent for grinding and buffing leather, fiber and similar materials.

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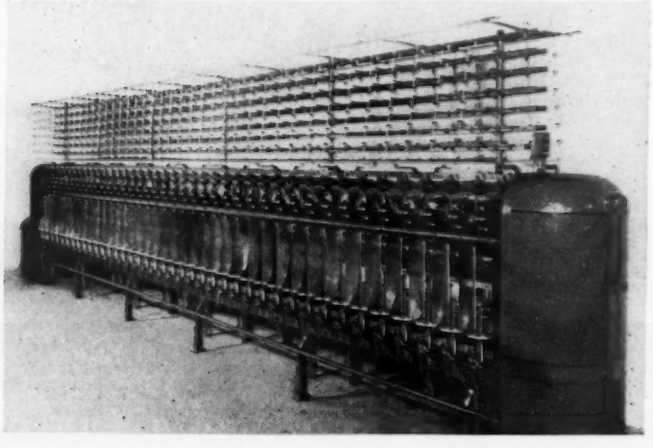
Unbreakable Wick Feed Oilers

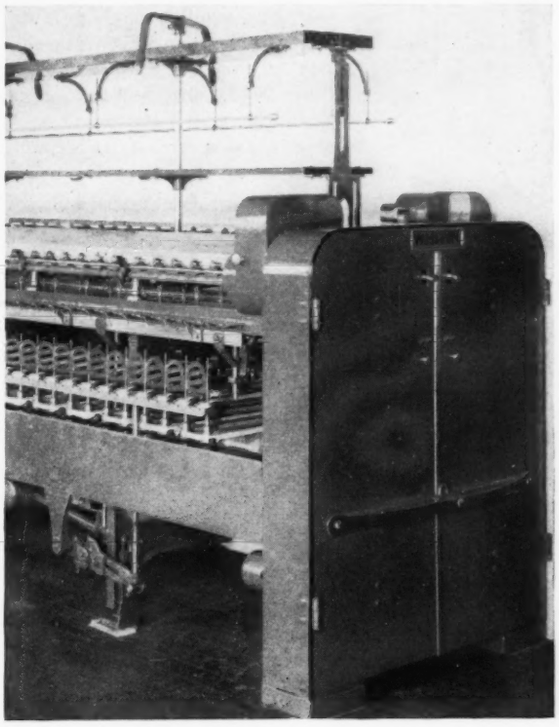
Trico Fuse Manufacturing Company, 2948 N. 5th St., Milwaukee, Wis., has announced a new, visible, unbreakable wick feed oiler, intended for economical use on machinery which operates intermittently. The lever at the top when in a vertical position starts the feed and when flipped to the side shuts off the feed. No flooding and waste of oil is had when the machine is idle. The oil supply is always visible and the crystal clear unbreakable reservoir tells at a glance when refilling is necessary. The new oiler is made in one, two and four ounce capacities.

New Atwood 5B Machine

Atwood Machine Company, Stonington, Conn., has designed a new 5B machine that is equipped with over-end delivery, which is said to be an advantage in the handling of yarns either from bobbins or cones. The tension is very soft and uniform and there is nothing to adjust and no loose parts. Threading up is said to be easy. The new machine permits higher thread speeds and a balanced feed from each bobbin or cone. Both drive end and twist unit end are fully enclosed. The new 5B has been designed to achieve greater strength and rigidity, and it has an even broader range of usefulness than the former machine. Twist may be from 1½ to 100 turns per inch. Rings are individually mounted and up to 4¾ inches in diameter, allowing the use of full length separators. Spindles may be provided with large diameter whorls for belts up to 2-inch width. The sliding motor drive is rigidly mounted on a three-point ball bearing wheel support. Belt tension is controlled with accuracy by a heavy mainspring take-up.



CUTLER SAK TAPE



A Deserved Tribute

It gives me great pleasure and satisfaction to express herewith my sincere gratitude to those leaders of the Textile Industry whose continued help and cooperation have aided in bringing Cutler Sak Spinning and Twisting Tape to the prominent position which it now enjoys in the trade.

These men, who have covered more than 5,000,000 spindles in their mills with Cutler Tape, are now realizing a saving of over $1,000,000 annually.

ROGER W. CUTLER.

Scientific Research Brings Practical Economy to YOU!

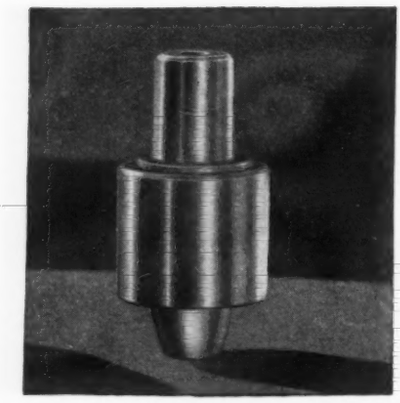
	Cutler	Ordinary
Break (lbs.)	260	210
Yards per lb.	75	45
Thickness (inches)	.03	.044
Life (months)	20	11
Spindle Cost—5/8"	.0208	.0088

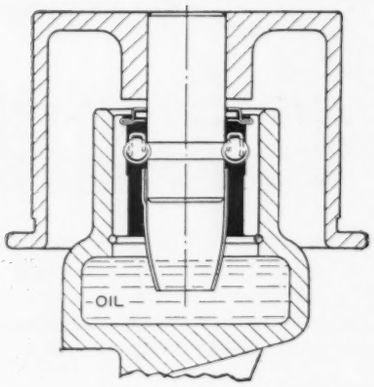
	Cutler	Ordinary
Cost—20 months (spindle)	.0354	.0376
Spindle Speed (rpm)	9850	9700
Annual Power Saving (spindle)	.088	0
Annual Increased Yarn (spindle)	.07	0
TOTAL SAVINGS *(per spindle per year)*	15 4/5c	0

Licensees:
Barber Manufacturing Co.
Krout & Fite Mfg. Company

ROGER W. CUTLER

BOSTON, MASS. **GREENVILLE, S. C.**



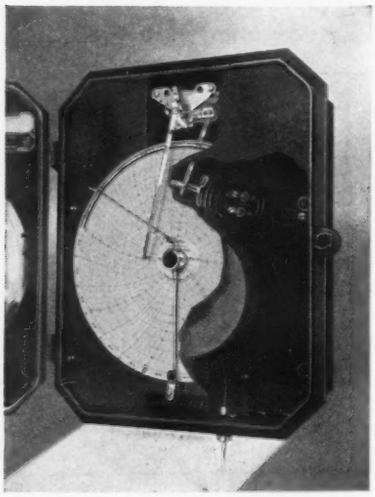


Oil-Circulating System for Bearing

New Departure, Bristol, Conn., has announced a vertical tension pulley bearing for textile machinery. Identified by the number TP-13-500, the new bearing has been under development and test for some time and is now being used in some of the latest textile machines. The bearing not only provides a vertical stub shaft on which the pulley is mounted, but it contains its own oil circulating system for speeds of 3500 to 15,000 r.p.m. The oil is drawn from a reservoir below the bearing and is passed in a fine spray or mist directly to the balls and races. It is of the self-sealed type with all-metal seals; the oiling system is completely enclosed and fresh lubricant need be added only at yearly intervals.

New Line of Recorders

Taylor Instrument Companies, Rochester, N. Y., have made available new recorders for temperature, humidity, pressure, load, rate of flow, liquid level, etc., for pneumatic transmission systems, to provide companion recording instruments for the company's completely redesigned line of Fulscope controllers. Exclusive of the controller mechanism, the recorders and recording controllers are identical. Even the cases are drilled and tapped to receive any of the five standard Fulscope control mechanisms should it be desirable to add it at a later date. The time required for changing charts is cut in half by a uniquely designed mechanism that combines the chart locking device and pen lifter. The chart is easily removed and replaced with one hand. Other features include a new electric chart clock with improved coil design, totally enclosed oil-immersed gears, and slower speed motor.



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Unbreakable Mercury Relay

Durakool, Inc., Elkhart, Ind., has announced a mercury relay that utilizes the unbreakable metal body of the company's mercury switch and the displacement principle with solenoid actuation. The contact structure is hermetically sealed, making the relay suitable for use in corrosive or explosive atmospheres. It may be operated up to 300 times per minute. The relay is said to require no maintenance or attention and no glass is used in its construction. Manufactured to meet ordinary requirements, it is also available for special requirements up to 200 amperes capacity.

◆

Stoker Service Control Relay

General Electric Company, Schenectady, N. Y., has developed a new relay for controlling a stoker in conjunction with time switch, limit controls and room thermostat. It can also be used as a relay for blower motors of unit heaters controlled from room thermostat; as a relay between room thermostat and condensing unit in central plant-cooling systems; and as a relay between humidistat and humidification systems. The relay is designed primarily for use in conjunction with a hold-fire timer and limit control to form a complete stoker-control system, and it also provides a simple control link between any low-voltage control instrument and power equipment.

◆

New Laurel Products

Laurel Soap Manufacturing Company, Inc., 2600 E. Tioga St., Philadelphia, Pa., has announced four new finishes for processing nylon hosiery, and a new degumming powder for silk hosiery. The nylon finishes are: Laurel Nynit C, a lubricant and conditioner which is said to yield better knitting and an even stitch, and to prevent sticking in preboarding; Laurel Supergel TB, a scour which removes size, grease and dirt and leaves hosiery clean and ready for the dyebath; Laurezol No. 6, a dispersing agent which increases penetration and aids production of level shades; Laurel Peramel, a permanent finish which imparts smooth desirable body and withstands repeated washings. The new degumming powder is No. 433 and may be used in either the single or split bath method with the usual dyeing procedure. It is said to give quick boil-off, aids leveling of neutral dyeing acid colors, leaves goods in elastic condition, and prevents formation of spots in the degumming or dyebath.

◆

Potentiometer-Pyrometer

J-B-T Instruments, Inc., 441 Chapel St., New Haven, Conn., have announced a new type of portable potentiometer-pyrometer for measurement of temperatures by thermocouples. It is said to withstand vibration and adverse conditions of ambient temperature, is light, requires only a flashlight cell, and has a guaranteed accuracy of .5 per cent total scale deflection.

◆

"Soap Manufacture"

Chemical Publishing Company, Inc., 148 N. Lafayette St., New York City, has published the book "Soap Manufacture", which is a handbook for students and those engaged in the manufacture of hard soap. It was written by B. J. H. Wigner. The object of the book is to provide information of a practical kind for the use of those engaged in the day-to-day tasks of soap works. It sells for $4.00 per copy.

◆

Fabric Labels

Jackmeyer Label Corporation, New York City, has announced the utilization of rotogravure equipment with a new vat-dyeing process instead of printing inks for the manufacture of fabric labels. The labels produced by the new process are said to be fast-color, combining the intricate designs, small lettering and photographic effects.

"*This advanced lubrication service helped us* reduce operating costs"

. . . Say Operating Officials

GULF PERIODIC CONSULTATION SERVICE

gives you a practical cost-reducing tool you can put to work at once!

HOW to offset mounting "non-controllable costs" — that's the perplexing problem executives and operating men are facing today.

Here is a practical cost-reducing tool you can put to work in your plant that will help you cut controllable costs and offset the higher non-controllables. Through this modern lubrication service, you get the benefits of the advanced knowledge and skill which Gulf's large staff of technologists has developed during recent years. *Without one cent of additional investment,* you are assured that efficient operation of your machinery is maintained and costs for maintenance held down to a minimum.

For the operating official who is seeking a means to reduce costs and increase profits, here is something *definite* that can be done — at once! Write for your free copy of the booklet which explains this money-saving service.

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GULF INDUSTRIAL LUBRICATION

Gulf Oil Corporation — Gulf Refining Company C
Room 3813, Gulf Building, Pittsburgh, Pa.

Please send my copy — no charge — of the booklet "GULF PERIODIC CONSULTATION SERVICE."

Name.....

Company.....

Address.....

One of the largest stainless steel bleaching kiers on record. It is capable of handling a maximum load of twelve thousand pounds of cloth per boil. The unit is 12 feet high, has a diameter of 10 feet. The shell is ¼-inch thick and is made from Enduro stainless steel. It was fabricated by William Allen Sons Co., Worcester, Mass.

"Mattress Directory"

Davison Publishing Company, Ridgewood, N. J., has published the 27th annual edition of the "Davison's Mattress Directory", which is the only directory of the mattress, upholstered furniture, bedding, waste, linter, hair, batting and kindred lines. It gives such facts as whether any mattress manufacturer uses cotton felt, batting, cotton waste, linters, hair, shoddy, jute, fiber, kapok, excelsior, feathers or moss; the number of machines of various types used by a manufacturer, etc. Bound in cloth covers and having thumb indexes, the directory sells for $4.00.

◆

Floor Sealer

The American Asphalt Paint Company, 43 E. Ohio St., Chicago, has announced Valdura floor sealer, a new and special formulation for treating unfinished wood floors to furnish protection against dirt, water, grease and constant wear. It penetrates the wood and seals the grain, achieving a waxed and polished surface, with no surface coating to wear off. One gallon will cover about 800 square feet of floor surface.

Combustion Chamber for Gas Fading Tests

United States Testing Company, Hoboken, N. J., has devised a combustion chamber for testing acetate rayon fabrics for their resistance to atmospheric fading. The new chamber is so designed as to control the flow of the combusted gases, the exhaustion of the fumes, and the temperatures. By means of a series of baffles and drafts, a uniform concentration of gas acid fumes that cause color change is insured.

◆

Crimped Nylon Fiber

E. I. Du Pont de Nemours & Co., Inc., Wilmington, Del., has been granted a patent covering production and processing of a crimped wool-like fiber made of nylon, issued to John Blanchard Miles, Jr., and assigned to the company. The nylon crimped fiber is made from the same basic elements obtained from coal, air and water as other nylon products. It is said to approach "and may even equal" wool in "crimp retentivity" and heat insulating properties. Superiority in strength, heat stability and dyeing characteristics are other qualities claimed. It is also elastic, mothproof and unaffected by commonly used cleaning fluids or processes. It is said that no immediate commercial production of the new fiber is planned inasmuch as the production will require new types of manufacturing equipment, all of which must yet be designed and built.

◆

Quick Heating Soldering Iron

Ideal Commutator Dresser Company, 1094 Park Ave., Sycamore, Ill., has announced a new soldering iron that will heat to soldering temperature in less than a minute. Heating is controlled by a thumb-operated button on the handle and continues as long as the button is held down, stopping when the button is released. The iron is recommended for all ordinary soldering purposes as it is small and lightweight for easy manipulation. It is not recommended for continuous duty.

◆

Amtex 340

American Textile Chemical Company, Watertown, Mass., has announced Amtex 340, a chemical of interest to dyers and bleachers. The new product is said to be especially adapted as a cleaner and solvent, particularly in preparation for dyeing three-color work by the one-bath method. Amtex contains no caustic, acids or heavy sodas. It is said to give richer color, save time, effort and steam, produce greater absorbency and give greater receptivity to dyes.

◆

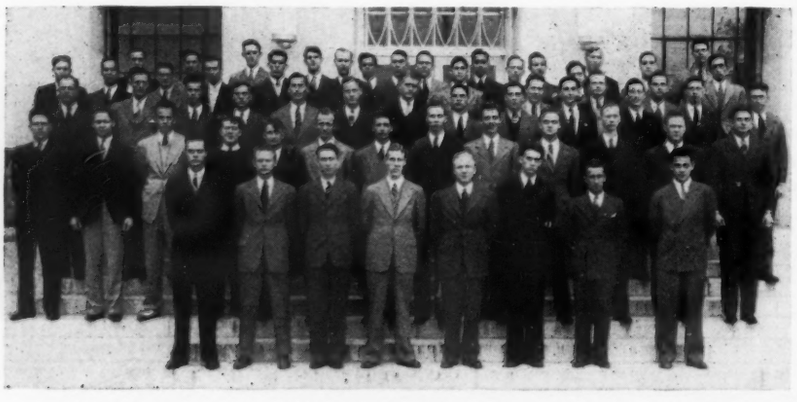
Textile Abraser

Taber Instrument Company, North Tonawanda, N. Y., has developed the Model JF textile abraser, a precision testing instrument for determining wear quality of woven fabrics, ranging from heavy wool overcoating to sheer silk hosiery. The test is based on the use of dual resilient wheels of standard composition which provides a unique wearing action resulting from the two wheels alternately rubbing back and forth and at the same time criss-crossing their paths approximating actual conditions of use. Further information may be secured from Taber or from Alfred Suter, 200 Fifth Ave., New York City.

◆

Photoswitch Electronic Pilot Control

Photoswitch, Incorporated, 21 Chestnut St., Cambridge, Mass, announces a pilot control electronic switch rendering possible control of large currents. The new device is said to make stop motion control positive on textile machinery. On looms, warpers and winders stop motion control is automatically provided on thread break by light pins dropping on copper electrode beds.



The graduating class of the textile school at North Carolina State College, Raleigh, N. C. 65 young men received degrees during June and several more will graduate at the end of the summer session. Officials at N. C. State say this is probably the largest textile graduating class in America. Indications are that about 75 per cent of the graduates will be located with southern textile organizations, while others will become connected with commission houses in New York City, rayon plants, and with manufacturers of textile chemicals, dyestuffs and textile machinery . .

HANGERS by the hundred...

...to *speed* Pipe Installation!

NO matter how or where you want to locate piping, you can find a stock Grinnell Hanger that does it quicker and better than any makeshift hanger you might use. Originally designed for Grinnell's own use in installing automatic sprinkler systems, this complete line now gives you wide choice of special hangers to hang any piping anywhere!

Grinnell Hangers are engineered for easy, speedy installation and quick, positive adjustment *after* pipe is in place. Write for detailed catalog covering all types: "Grinnell Adjustable Hangers and Supports." Grinnell Co., Inc., Executive Offices, Providence, Rhode Island. Branch offices in principal cities.

GRINNELL

WHENEVER **PIPING** IS INVOLVED

TIMELY NEWS ITEMS with a TEXTILE SLANT

Robert S. Peare, president and general manager of the Maqua Company, a large printing and engraving concern affiliated with General Electric in Schenectady, has been named manager of the publicity department of General Electric Company, succeeding Chester H. Lang, who becomes manager of apparatus sales for the company.

Archie Chandler has been elected vice-president in charge of sales of The American Pulley Company, Philadelphia; he became associated with the company in 1915 as district sales manager and in 1928 was named general sales manager.

Sidney Edelstein, graduate of M. I. T., formerly chemist for the Dixie Mercerizing Company, Chattanooga, research associate for the AATCC working on a study of the mercerization process, and more recently vice-president and general manager for Lamed, Inc., has joined the research staff of Hart Products Corporation, 1440 Broadway, New York City.

Lustre Fibres Limited, selling agents for American Viscose Corporation, have moved their New York sales offices from 200 Madison Ave., to 19th floor of Empire State Building, 350 Fifth Ave., New York City.

Foote Bros. Gear and Machine Corp., 5301 South Western Boulevard, Chicago, Ill., announce the appointment of Continental Gin Company of Birmingham, Ala., as representative in states of Alabama, Georgia, South Carolina, North Carolina, Florida and the southern part of Mississippi.

John R. Fuller has been appointed general purchasing manager of Hygrade Lamp Division of Hygrade Sylvania Corporation, and will handle purchasing problems of incandescent lamp, fluorescent lamp, spectron sign tubing and miralume lighting fixture activities.

Harold F. Pitcairn succeeds Hugh A. Galt, retired, as president of the Southern Alkali Corporation, subsidiary of Pittsburgh Plate Glass Co.

R. F. Heath has been transferred by Manning, Maxwell & Moore, Inc., Bridgeport, Conn., from Houston, Tex., territory to the New Orleans territory, which was formerly covered by Jack Schuyler.

R. B. Olney, formerly connected with Sherwin-Williams Company, has resigned to go into business for himself and has formed the Olney Paint Company, Spartanburg, S. C., distributing the products of Gilman Paint and Varnish Company in the two Carolinas.

Wilfred A. Clabault has been appointed advertising manager of Roller-Smith Company, 1766 W. Market St., Bethlehem, Pa., makers of electrical measuring and protective devices.

Mr. Chandler

James D. Fleming has been appointed vice-president and sales manager of Grinnell Company, Inc., Providence, R. I. Formerly he was vice-president and manager of Grinnell Company of the Pacific, a subsidiary. He will continue to manage the Pacific Company but will be located at the company's home office at Providence, R. I.

Ward R. Hickok, former vice-president and general manager of Stromberg Time Corporation, has become associated with TelAutograph Corporation, 16 W. 61st St., New York City, as general sales manager.

Ramsay Peugnet was recently honored by the board of directors of United States Testing Company upon his completion of 41 years of service to the silk and textile industry, and 30 years continuous service as an officer of the company.

Factag, a frank attempt by Pacific Mills to give the consumer concise information about the fabric purchased, has been approved by Helen M. Slator of the consumer education department of New York's city federation of women's clubs.

Mr. Stocker

Berrien Moore, who has been associated with Allis-Chalmers Manufacturing Company since 1908, has been appointed manager of the Florida district of the company, with headquarters at Tampa.

R. T. Yates has been named as manager of domestic sales of the Naval Stores Department of Hercules Powder Company, Inc., and D. M. Houston has been appointed manager of the Naval Stores export sales.

William M. Stocker, who has been with Cameron Machine Company since 1925, has been appointed chief engineer, succeeding R. McC. Johnstone, who resigned several months ago.

Collins Loom Works, Inc., Amsterdam, N. Y., have appointed Erick-Gross Corporation, 381 Fourth Ave., New York City, as sole selling agents for the distribution of the high speed Tricot machine.

D. R. Churchman, formerly in the Columbus, Ohio, territory of The Fostoria Pressed Steel Corporation, has been made southeastern district manager for the company, making his headquarters at Atlanta, Ga. Mr. Churchman's home address is 10 Pine Circle, N.E., Apt. F. His initial work in the southeastern territory will be the displaying of the company's para-sphere reflectors and brackets in connection with the new drying lamps, which are said to require a shorter drying time, less space, decrease spoilage, and have instantaneous production. Installations of the new lamps have already been made in the automotive field, and experiments are at present being conducted utilizing the lamps in the drying for cotton slashers.

It Always Pays

To Call In A Standard Conveyor Engineer—

Wherever your mills are located—there is a qualified, trained Standard Conveyor engineer near you—prepared to give service and expert counsel on textile conveyors and conveying methods.

The Standard Conveyor Company with trained, experienced men in offices in fifty-four principal cities in the United States is the leading organization of its kind for nation-wide service in conveyor engineering.

No matter how large or how small your conveying job may be—you'll find it pays to consider the recommendations of a Standard Conveyor engineer.

"Conveyors by Standard" -- a valuable reference book -- sent to executives upon request.

Standard CONVEYORS "THE STANDARD OF VALUE"

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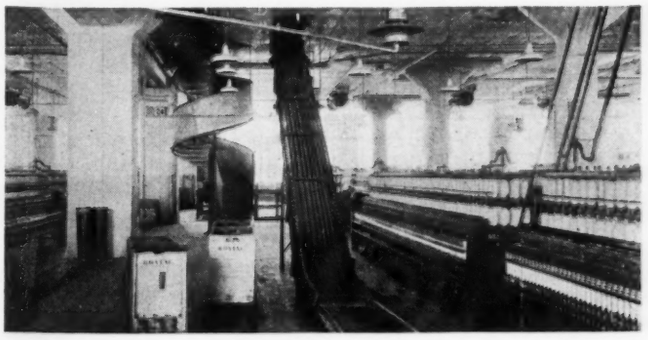


Our

FIFTEENTH

Anniversary

BARBER MANUFACTURING COMPANY

Charlotte . . . . N. C.

A North Carolina Corporation

Incorporated 1925

Specializing exclusively in the manufacture of spinning and twister tapes of highest quality. All styles —All thicknesses—All widths.

Our sincere thanks to the many mills which have made possible the steady growth of our company during the past fifteen years.

George W. Dolan and **C. S. Glenn** have been elected vice-presidents of The Mathieson Alkali Works. Mr. Dolan formerly was assistant to E. M. Allen, president; Mr. Glenn will retain his former title of director of operations.

Victor Balata & Textile Belting Company, Easton, Pa., has installed a mammoth solid woven belt loom which is said to be the widest belting loom in the world. It will produce a woven belt of 84 inches in width.

Morse Chain Company, Ithaca, N. Y., have announced the opening of a new branch office at 1418 Polk St., Houston, Tex., to be managed by Bob Koch, formerly of Ithaca, where he was assistant sales manager for the last five years of his 13 years with the company.

Beach Soap Company, Lawrence, Mass., has purchased the inventory, trade names and good will of the George E. Marsh Company and Lysander Kemp & Sons Corp. from the Consolidated Rendering Company, and will continue to manufacture the present Marsh and Kemp brands of soap from the Beach plant in Lawrence. C. F. Mudgett of the Marsh company will transfer to Beach. Messrs. Alfred Cowan, Frank E. Allen and Fletcher S. Lawson will become part of the field personnel of either Beach or the parent company, Cowles Detergent Co.

Rohm & Haas Co., manufacturer of chemicals for the textile industry, has acquired for $250,000 the Philadelphia plant of the Peter Cooper Corporations, of Towanda, N. Y., according to recent announcement. The property includes a lot, 374x397 feet, bounded by Garden, Franklin and Locust streets, several adjoining tracts and a frontage along the Delaware River. Improvements are one, two and three-story buildings. The plant of Charles Lennig & Co., a Rohm & Haas subsidiary, adjoins. Main headquarters of Rohm & Haas are at 222 West Washington Square, Philadelphia.

The Hydronapthene Corporation, 22 East 40th St., New York City, has granted licenses to Onyx Oil & Chemical Company for the production and sale of sulfated fatty acid amides and sulfated fatty acid esters under the proper U. S. patents.

Obituary

(*Additional items on page* 72 *and* 104)

EVANDER SHAPARD, JR., superintendent of the Dovedown Hosiery Mills, Griffin, Ga., passed away the latter part of April.

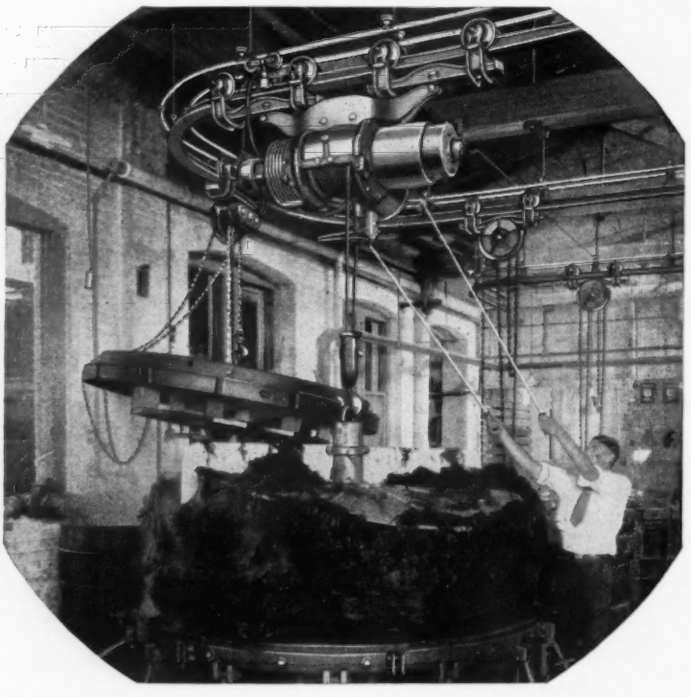
CHARLES F. JONES, 76, for 13 years superintendent of the knitting department of the Cannon Mills, Kannapolis, N. C., passed away during April.

FRANK R. HACKNEY, 35, night superintendent of the Lexington (N. C.) Silk Mill, died during April after an illness of four weeks.

M. G. STONE, 89, retired official of the Pacolet Mills, Spartan Mills and Whitney Manufacturing Company, passed away the early part of May. Mr. Stone was the father of MARSHALL C. STONE, vice-president and manager of the Pacolet Mfg. Company, New Holland, Ga.

GEORGE J. SCHWARTZ, 73, official of the Natchez (Miss.) Cotton Mills, passed away recently after a brief illness.

JOHN T. DUNCAN, 82, president and owner of the Douglas Hosiery Mills, Douglasville, Ga., passed away recently.



For **BIGGER PROFITS IN THE DYE HOUSE**

Methods for dyeing new wool in the dye house have been modernized by Cleveland Tramrail.

An entire kier charge may be lifted, allowed to drip, and passed to the squeeze rolls and dryer by one man. Electric hoists handle the heavy material loads and hand-chain hoists lift and move the kier covers.

Cleveland Tramrail makes possible *bigger* profits, not only in the dye house, but in all departments of the textile industry.

CLEVELAND TRAMRAIL DIVISION
THE CLEVELAND CRANE & ENGINEERING CO.
1175 Depot Street Wickliffe, Ohio

CLEVELAND TRAMRAIL
OVERHEAD MATERIALS HANDLING EQUIPMENT
Other products: CLEVELAND CRANES and STEELWELD MACHINERY

Slumps in business used to call for a "needle"... an extra dose of selling pressure. Today, business prevents slumps with product improvement! Industrial leaders are constantly checking the quality of their products with Scientific Testing... constantly reviving consumer interest with product improvements, new developments. You'll find the names of these industrial leaders on the books of the United States Testing Company, Inc.

UNITED STATES TESTING COMPANY, INC.

ESTABLISHED 1880

HOBOKEN, NEW JERSEY

NEW YORK PHILADELPHIA GREENSBORO WOONSOCKET CHICAGO

PAGE FENCE

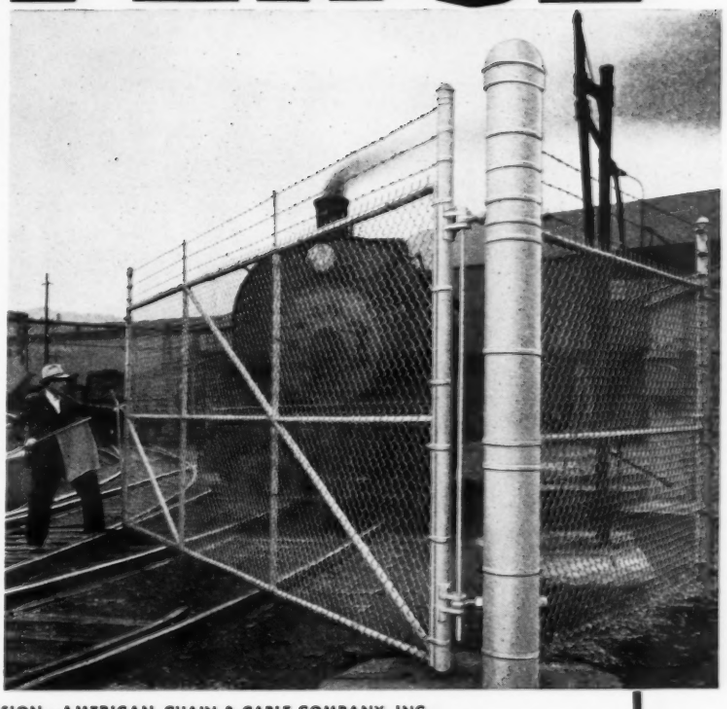
COME ON—BE A METALLURGIST!

● It is easy to be a metallurgist when you talk to a Page Fence engineer. He will explain why a choice of fence metals is important to best meet your local atmospheric and service conditions.

Only Page can offer a choice of these superior metals: heavily-galvanized copper-bearing steel—Allegheny stainless steel—Armco ingot iron—Alcoa aluminum. And only Page provides the exclusive winged channel post for greater strength and longer life.

There's a metal, height, style and construction method to fill every requirement, whether it be immunity to corrosion, maximum strength, minimum weight or special protection.

There are 97 members of the Page Fence Association, located in 97 cities. Each is a factory-trained, long-experienced expert—a permanent, responsible local distributor with a reputation which assures the right fence, properly erected and guaranteed. Write to PAGE FENCE ASSOCIATION, Bridgeport, Conn., Atlanta, Chicago, New York, Pittsburgh or San Francisco for book "Fence Facts."



A PRODUCT OF PAGE STEEL & WIRE DIVISION—AMERICAN CHAIN & CABLE COMPANY, INC.

America's First Wire Fence — Since 1883

PERSONAL NOTES
About Men You Know

GEORGE E. SPOFFORD, JR., has resigned as agent of the Hill Manufacturing Company to accept a similar position with the Androscoggin Mills of the same city, Lewiston, Me.

W. M. BLACK has resigned as superintendent of production at the Kerr Bleachery & Finishing Works, Inc., Concord, N. C., and has entered the hosiery business with his brother, SAM L. BLACK, who operates the Black Hosiery Mill, Midland, N. C.

JOE GUINAN has become superintendent and B. BAUMGARDNER assistant superintendent of the Clay County Products Company, Green Cove Springs, Fla., where full-fashioned hosiery is manufactured.

CLYDE DILL, formerly in the weaving department of Judson Mills, Greenville, S. C., has resigned to become associated with the Monaghan Plant of the Victor-Monaghan Company, Greenville, S. C., where he is in charge of weaving.

GEORGE E. SINKINSON has been promoted from superintendent to manager of the Saylesville department of the Sayles Finishing Plants, Inc., succeeding H. P. RENO, who has been assigned special work.

WILLIAM SUMMERSBY has accepted the position as manager of the units of Springs Cotton Mills, with plants at Lancaster, Chester, Kershaw and Ft. Mill, S. C. Mr. Summersby has had a wide and varied textile experience, at times having been connected with Maginnis Mills of New Orleans, Indian Head Mills of Cordova, Ala., Sand Springs (Okla.) Mills, Pacific Mills, and more recently the Hill and Bates Mills, from which position he resigned to assume his new duties with Springs.

JAMES E. SHIELDS has been made manager of the rayon division of J. P. Stevens & Company, and JOSEPH H. SUTHERLAND, formerly identified with the downtown headquarters of the company, has been named assistant manager.

W. G. ARMSTRONG, formerly connected with the Piedmont Cotton Mills, Egan, Ga., has accepted the position as overseer of carding at the Scottdale (Ga.) Mills.

R. L. LEE, JR., for the past four years in charge of the spinning research work at Texas A. & M. College, College Station, Tex., has been named head of the textile department of the Texas Technological College, Lubbock, succeeding M. E. HEARD, who as noted has accepted the position as dean of the Philadelphia (Pa.) Textile School, succeeding E. W. FRANCE, who recently retired after more than 50 years of service in this position. Mr. Lee is succeeded at College Station by JOHN T. WIGINGTON, who for some time has been connected with the cotton utilization research project, Division of Cotton Marketing, U. S. Department of Agriculture, Washington, D. C.

Mr. Wigington

C. A. GOGGANS, formerly associated with the Riverdale Mills of the West Point Manufacturing Company, River View, Ala., has accepted a position with the Talladega (Ala.)Cotton Factory.

JAMES M. MARSHALL, formerly agent of the Ounegan Mill of American Woolen Company, Oldtown, Me., is now associated with Deering, Milliken Company.

S. A. VIROSTEK, formerly with the Hayward-Schuster Woolen Company, East Douglas, Mass., has been appointed assistant superintendent of the Sheuerman Woolen Mills, Des Moines, Iowa.

W. A. JORDAN has resigned his position as overseer of the cloth room at the Darlington (S. C.) Manufacturing Company to accept a similar position with the Hermitage Cotton Mills, Camden, S. C.

E. R. SWING, who has been connected with the Cannon Mills Company for 27 years, has been made superintendent of the bleaching and finishing departments of these mills at Kannapolis, N. C., succeeding the late ROY PROPST.

FRED E. HERRIN, formerly in charge of the knitting department of the Stimpson Hosiery Mill, Statesville, N. C., has been appointed superintendent, succeeding J. F. HARRISON, deceased.

GEORGE MIMMS has succeeded BOYCE MANGUM as superintendent of the La-Fayette (Ala.) Plant of Avondale Mills of Alabama.

E. J. BOSWELL has been transferred as superintendent of the Courtnay Manufacturing Company, Newry, S. C., to the same position at the Belton (S. C.) Mills, succeeding J. B. MITCHELL.

Obituary

JOSEPH WILLARD BAKER, secretary of the Manville Jenckes Corporation, Manville, R. I., and for more than 57 years associated with this company, passed away during May at the age of 72.

ALFRED M. MOORE, 73, president and treasurer of the Jackson Mills with plants at Iva and Wellford, S. C., and High Shoals, N. C., passed away at his home at Wellford, Spartanburg County, May 16. He was recognized as one of the pioneers of the southern textile industry.

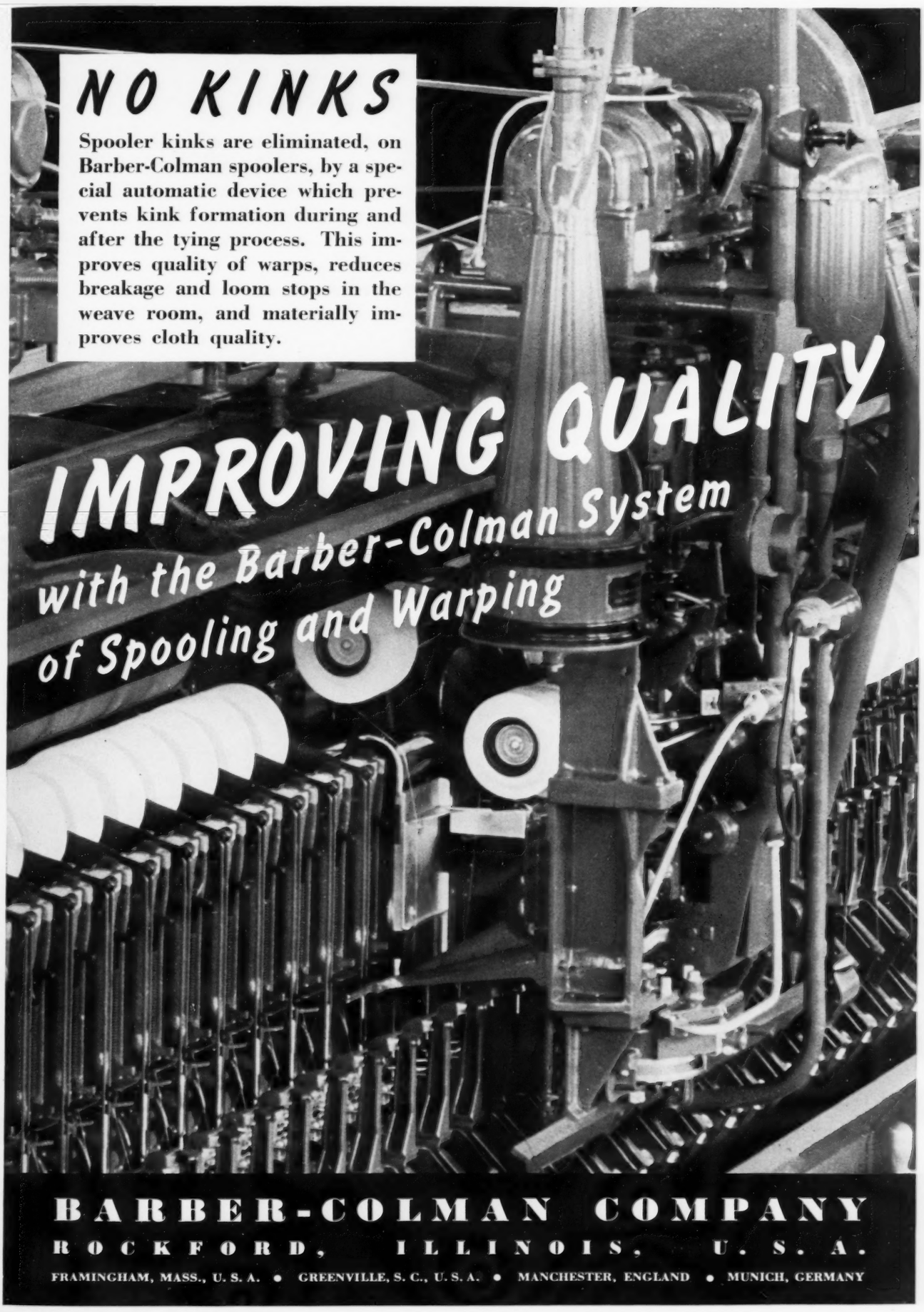
JULIUS W. CONE, chairman of the board of the Cone Export & Commission Company, vice-president of the Proximity Manufacturing Company and chairman of the board of Revolution Cotton Mills of Greensboro, N. C., passed away suddenly May 17 at the age of 67. He was one of the four brothers responsible for the furtherance of the Cone mills.

JOHN JULIAN WILKENS, 74, chairman of the board of the Bellgrade Manufacturing Company, Winder, passed away May 18.

W. C. WHITNER, 76, of Rock Hill, S. C., who is credited with revolutionizing both textile and power industries by transmitting power to distant mills, passed away suddenly May 12.

WILLIAM WINSLOW FLOWE, 66, president of the Hoover Hosiery Company and the Hugh Grey Hosiery Company, both of Concord, N. C., succumbed to an attack of the heart on April 29. He was also secretary-treasurer of both the Roberta Mill and the White Parks Mill.

(*Additional obituary items on pages 72 and 102*)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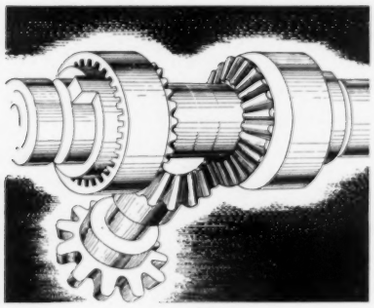

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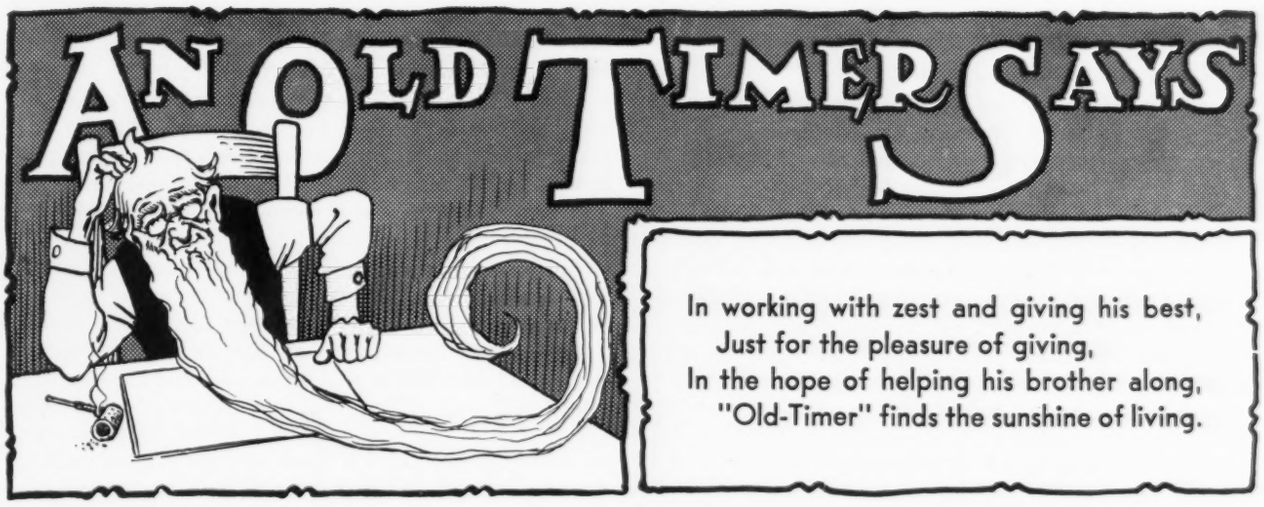

AN OLD TIMER SAYS
In working with zest and giving his best,
Just for the pleasure of giving,
In the hope of helping his brother along,
"Old-Timer" finds the sunshine of living.

This Sizing of Spun Rayon (*Continued*)

(Since this article is written in conversational style, it should be borne in mind that those paragraphs in regular type represent OLD-TIMER's part in the conversation, while those in *italics* represent JIM's part.)

In the May issue JIM and OLD-TIMER were discussing the sizing of synthetic fibers. They both admitted that very little is known about this process, yet OLD-TIMER was bringing out a few basic requirements. OLD-TIMER said that a chemist advised him that sizing a rayon warp would not reduce the elasticity of the yarn, and then went on to comment that if anyone discovers a way to dress a cotton warp and retain the elasticity in the dressed warp that raw yarn has, he will have something. JIM pointed out that all looms depend upon elasticity of the yarn in order for such parts as the whip roll and let-off motions to function properly, and said, "A wire warp which had no elasticity would not run in a loom—the loom would stop—those motions would jam—"

Now go on with the story. Here is OLD-TIMER's reply:

That is right, JIM, and that is the reasoning I have been using in talking with the loom men about their silk looms. It seems to me that they have either got to change the functioning of some of those motions or arrange them so that the tension on the rayon warp will be released when the loom stops, and some mills have arranged quite ingenious devices to do this. In fact, after losing about six months' sleep working on the idea I thought I had a great idea to absolutely cut out all "start-up" marks when I had my drawings ready and arranged to start a mechanic to work on the device, I heard of a mill which had such a simple arrangement for this purpose that it made mine look like 30 cents.

Well, that's a tough break, OLD-TIMER, *but who knows, maybe your device would appeal to or meet with the approval of some loom builders where his would not.*

Not a chance, JIM; the other fellow's idea is O. K. He just beat me to it, that's all.

And how about your double reed—

Don't call it a double reed, JIM; we want people to speak of it as an alternating dent reed, because a double reed was invented years and years ago; but to place such a reed in the loom you had to alter the lay; you had to cut out the lay to take the larger rib which the double reed had. Now the alternating dent reed we have is the same as a double reed except the rib on our reed is still ½ inch in diameter, or the same as the regular reeds, and it fits into the same space, requiring no change in the lay.

I believe you claim it is going to eliminate fuzz balls, don't you, OLD-TIMER?

No, JIM, but we do think there are great possibilities to the idea, especially for the heavy sley, fine-count rayon fabrics and on cotton broadcloths such as 120- and 100-sley, and very likely it will show great improvement over the conventional reed on weaves with not any finer sley than 80x80. It is also believed that on low count weaves like 64x60, 52x48 and 44x40 where customers complain about the cover of the cloth, which is often caused by the warp threads lying in twos, this alternating dent reed will improve those weaves because there will only be one warp thread per dent; but let's get back to slashing, the subject we started to discuss, and I'll probably surprise you with another statement. Here it is:

You know, JIM, that you and I have always worked to get penetration of size into our cotton warps, and the starch manufacturers had that idea when they put out thin boiling starches, but during some recent experiments with filament rayon we ran into something which caused me to ask a textile chemist this question: "As fuzz balls behind the reed cause the majority of loom stops in weaving filament rayon, would a sizing which puts a coating of size around the rayon thread, instead of penetrating between the filaments, tend to eliminate part of this trouble?"

A fuzz ball is caused by the breaking of one or more filaments, which then slides along the thread during the process of weaving until it becomes a ball large enough to cause a break, either of the thread the fuzz ball is on, or one of the adjacent threads. The question is, then, will filaments slide or bend better while in contact, that is, filament against filament, or with a coating of starch beween the filaments?

Good land OLD-TIMER, *there you go again with an-*

other crazy idea! Do you mean to tell me you believe that—

JIM, I simply asked the question.

Yeah, but you would not ask the question unless you had an idea in the back part of your head that there was something to it. Anyway, you have me all mixed up; to think we have worked all these years trying to get penetration, and more penetration; the starch manufacturers, the size manufacturers, and all the mill men in the country have been concentrating on the one object of penetration all these years and now you come along with an idea like that! You mean to tell me you think you are smarter than all those fellows—

Remember your blood pressure, JIM, before you get too much excited. All the penetration theory you refer to has been based on the sizing of cotton warps, and we are now confronted with the sizing of rayon—

Sure, OLD-TIMER, *by Heck, many of us are using the same starch, the same sizings and the same slashers, the same—*

That's exactly the point, JIM, most of us have been sizing rayon just like we have always sized cotton, and, strange to say, have been getting very good results, but we are now beginning to learn something about rayon, and one of the things we have found out is that rayon and cotton are affected by starch and sizing materials very similarly up to a certain point, but from there on, the two fibers are very different, and we may be on our way toward finding out some things about slashing and sizing rayons which will greatly improve weaving efficiency.

Probably so, OLD-TIMER, *but looks to me like you have some very questionable ideas.*

So we have, JIM, and that very fact proves we are progressing. When a set of men, or an individual, gets to the place where they feel that everything has been done or that all the worthwhile inventions have been made, they are due for a sharp awakening, because they will see announcements of new ideas being brought out that they thought were impossible, and some of those ideas may be about rayon slashing and sizing. For example, I have just read a report which says, in part:

"Mr. W. H. Bradshaw, director of rayon research for Du Pont Company, reports astounding results of tires made with rayon (from cotton) on tests in a hot climate. Cotton as it gets hot loses some of its moisture, and this drying reduces its strength, while rayon gets stronger with increasing dryness. Overloaded rayon tires run at high speed in a hot country gave 80,000 miles, while ordinary tires gave only 3,000."

Then why in Heck, JIM, do they use sizings on rayon which attract moisture, and why is it necessary to have humidity in a rayon weave room?

Darned if I know, OLD-TIMER, *unless the humidity is necessary to make it weave better. And about rayon tires being better than cotton tires, there's a fellow down in Georgia that certainly disagrees with the Du Pont man on this point. But before I lose the thought I want to ask you some more questions about tallow, as it seems that tallow is one of the main ingredients of sizings for cotton, and from all I can learn it is being used quite extensively in sizing rayons. Now you mentioned emulsified tallow and saponified tallow, so what I want you to explain is the difference in those two tallows, and why or how they are used in sizings; also, which one is best, and why.*

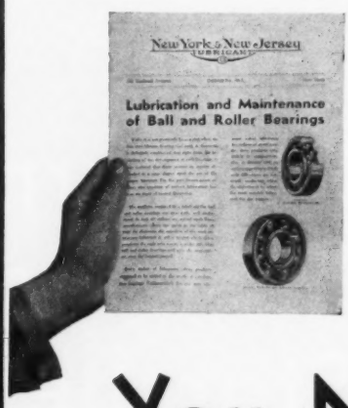
JIM, if you could answer questions as well as you can ask them you would be pretty good, I'd say, and, frankly, I think that the reason you can't, is just pure laziness. If you would read the textile magazines and text books more you would know more of the answers, and, incidentally, you would form more ideas of your own. You see, reading is somewhat like conversation inasmuch as if you engage in conversation you are bound to have an idea of your own to creep in once in a while, just like a bunch of fellows who get to telling jokes: One fellow will tell a joke and then another fellow will say, "Now that reminds me"—and come out with his joke. You know I started you one time on devoting two hours a week on constructive reading, this two hours of reading to be in addition to your regular reading of the daily papers and what other reading you did for pleasure, but—

Yeah, OLD-TIMER, *I know all about that, but I have asked you a simple question about tallow.*

Now I am not sure, JIM, that your tallow questions are as simple as you seem to think, but I will try to partly answer them, anyway, and if my reasoning is not correct from a chemist's standpoint maybe some chemist will tell us, and we will learn something. First, the very fact that so many mills use tallow in sizing and have used it for so many years, and the fact that so many sizing manufacturers use tallow in their formulas in one form or another, seems to be pretty good proof that it is a good ingredient to use in sizing cotton warps. However, I do know of one sizing manufacturer who does not use tallow in his formula and he has made an outstanding success as a manufacturer of sizing materials. This manufacturer of course uses other softeners to obtain the same results which firms using tallow claim they get.

Next, JIM, I have never believed we could get raw tallow to saponify in a mixture of water, especially hard water, and starch. That is, to thoroughly mix with the starch and water; and if too much grease or tallow happens to hit a warp thread or several warp threads, in one place, that particular place will be soft; it will not have the coating and penetration of starch right at the spot where too much tallow is. If tallow does not thoroughly mix with the water and other ingredients in the batch of size, then the tallow will not be evenly distributed on the warp threads and this is the reason we think raw tallow should be treated before being used in sizing cotton warps. You know, to convert a fat or oil into soap, you must use an alkali. That is the way the country people made their soap years ago, and some still do. They would use hog or beef fat with an alkali they made by soaking oak wood ashes in water. They would fill a kind of hopper with the wood ashes, then pour water on the ashes and catch the drip or drain from the hopper in an earthen vessel; this gave them the alkali to mix with the fat grease to form soap, and for years many mills used this kind of soap as a basis for making sizing compounds for cotton warps. Also, years ago, when we wanted to keep a part of a kettle of size over-

(*Continued on page* 114)



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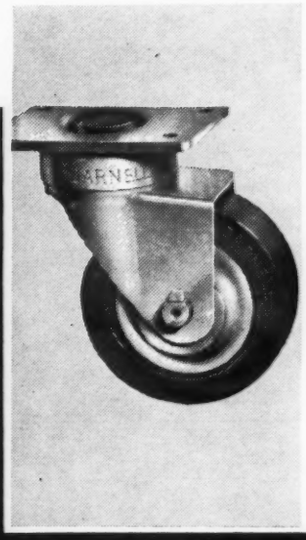

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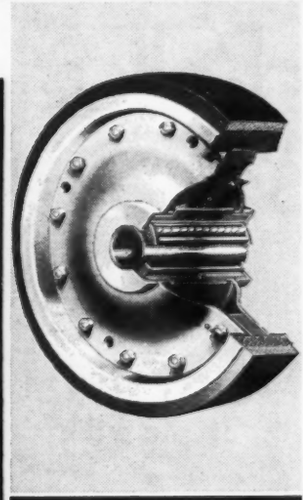

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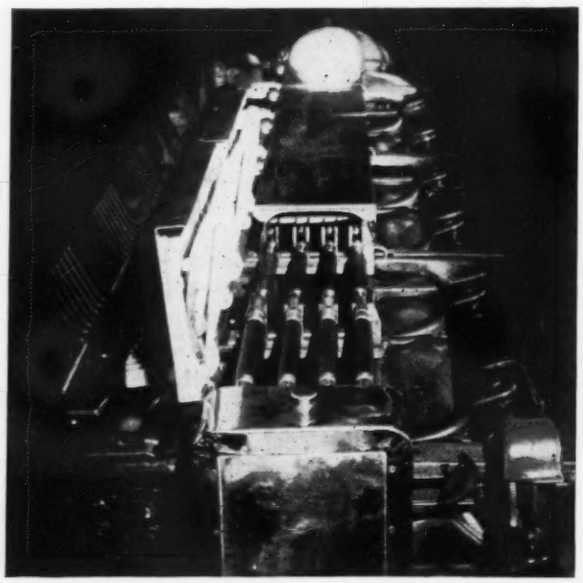

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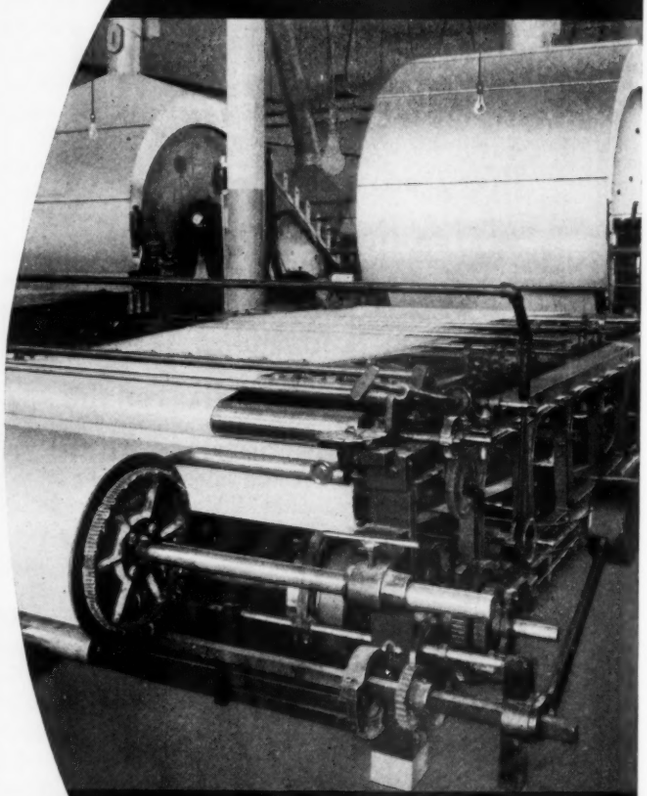

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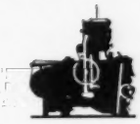
Loom Fixing Notes



A Master Weaver and a Mechanic

A loom fixer is necessarily an expert weaver and a first class mechanic. He is the backbone of the weaving industry, and upon him depends the production of a mill as well as the quality of goods produced. A professional loom fixer can take a loom apart and set it together again in a reasonable length of time, setting all gears and parts exactly and carefully. Timing the head motion and box motions is only a small part of a loom fixer's real work.

Each part of a loom, each gear, wheel or surface where there is friction must be properly lubricated from time to time. A loom must be inspected for worn and broken parts systematically and regularly and thereby kept in an up-to-date condition.

The loom fixer is the manager of his department and the weavers who work for him. Upon him depends the welfare of the help. If he repairs the looms and keeps them running properly, the weavers will commend him and always be happy at their work. A good loom fixer who can take care of his machinery and the help entrusted to him is as essential to a mill as a mill superintendent or mill manager. With a little patience or perseverance the loom mechanic can make a bad job run good and thereby build a reputation. No mill manager will let a first class loom fixer leave for he is essential to the establishment.

A great mistake that most men make when first attempting to fix a loom is to be hasty and try to fix the job in double time. This is the reason that so many of the so-called loom fixers are not successful. To those who contemplate fixing looms the following advice is offered: Do not adjust or attempt to fix any part of a loom until you know what you are trying to fix. First of all ascertain what the cause is, and where it lies, then fix only such parts as will help such causes. Don't put more weight on the warp if the reed is sharp, or the filling breaking. Don't blame good yarn if you cannot find the real reason for ends breaking out.

How to Put a Warp in the Loom

Of first importance to a beginner is to learn how to put a warp in a loom and how to line the reed properly. Be careful in carrying the warp to the loom so as not to break out ends or make a smash. Lay the warp into the proper bearings and hang the harness carefully on one or two straps or a cord. Tie on the shafts to their respective harness cords being careful not to hang shaft number 1 on strap number 2, etc. Next, fasten the warp to the loom apron or cloth left for that purpose, being sure that it is tied on evenly. Put the weights and ropes on the beam heads. Draw the warp tight by turning the pick wheel; next put on all harness cords or springs, being careful not to cross any. Turn the lay or gem head handle to open the shed. Then look between the shafts for the long threads, splinters of wood, screw eyes, etc. Next line the reed with the shuttle box with the aid of a straight edge. If the distance between the end of the reed and the shuttle box is more than 2 inches, insert a piece of reed to avoid further trouble such as loom banging.

The reed should move easily in the reed frame [for certain types of fabrics]. The reed cap should be screwed on tight. Examine the harness or box pattern for bent bars, broken lifters or pins or split bars. If all is in shape this far examine the shuttles for broken tensions, porcelain guides, sharp edges, etc. Add the proper amount of warp weights, put on the required pick wheel and the loom is ready to weave.

How to Set a Picking Motion

The picking motion must be set so that the shuttle begins to leave the box when the crank shaft is at its highest point (C. & K. Looms). If the loom revolves in the opposite direction then the crank shaft must be at its lowest point when the shuttle should leave the box. If the pick is not strong enough, or too strong then adjust the lug strap on the picking stick. The lower the lug strap, the stronger the pick and the higher the lug strap the weaker the pick. The foregoing applies to ball and cam picking motions.

How to Set the Filling Stop Motion (Plain Looms)

The filling fork must be straightened so that it will pass through the rake without touching it. The prongs or feeler wires should not be too long or short. The hook of the filling fork lies over the stop-motion finger. This stop-motion finger must begin to come in contact with the filling fork hook when the reed touches the goods. If it is set otherwise, the loom will stop for no apparent reason.

Center Stop Motion

The center stop motion on box looms differs from the stop-motion on plain looms in that the former is in the center of the lay and the latter at one end of the lay. The center stop motion consists principally of three or four feeler wires set in a round base which is fastened on the lay. To this base is attached a small arm. As the lay is moved to its fartherest position from the goods, the feeler wires are lifted or raised to the highest point by the arm. If the filling lies under the feeler wires as the loom comes forward, toward the goods, the dagger will not strike against the tumbler and knock off the shipper handle. Care must be taken to have the feeler wires rise high enough to allow the shuttle to pass under.

FORD

Some Changes in Card Room to Prevent Crowding

EDITOR COTTON:

In the modern textile plants there exists the tendency to lay out and plan for the installation of machinery with ample floor space to serve and operate the different machines. Often before the installation is complete and even years later it is desired to add more machines and not add to the floor space. This conjestion decreases the efficiency of the operatives and increases the cost of servicing the machines. It is the duty of the supervisors to eliminate the conjestion around the machines with all possible simplicity. Boxes and containers anchored to the floor, beams, posts, and walls are a nuisance because they are stumbling blocks, collectors of trash and accumulators of filth that creates unsanitary conditions.

Bobbin slides, bobbin baskets, and waste containers may be arranged to eliminate conjestion around the roving and spinning frames. These offer the opportunity to improve the conditions of the room. It is the custom of machine builders to place the bobbin slide on the bottom back rail of the creel and bottom front rail (rarely provided on front). If located on the bottom it is necessary to provide one or more baskets or boxes on the floor beneath the slide and machine to catch the bobbins. There is the cost and upkeep of the containers; they often block traffic through the alley, must be moved to clean and repair the machinery, and collect materials other than bobbins. On some makes of machines it is necessary to build the containers under the roving frames or build platforms to hold them. These containers have to be emptied and require much time if stationary. They must be removed for cleaning and repair of the machinery.

Fig. 1 illustrates the solution to this problem. Remove the slide from the bottom back rail and place it on the second. Dispense with the bobbin containers and place the truck across the end of the frame to receive bobbins from both the front and back slides. When the tender has filled the truck or completed the creeling, the bobbins are convenient to move with a minimum of handling. Trucks may be placed at both ends at back of the frame and foot end only for the front.

The front slide eliminates the work of removing the bobbins from the creel top and the falling bobbins that break so many bolsters. At no time are there empty bobbins to interfere with placing new stock on the creel tops.

While removing the bobbin slides from the bottom rail remove the two bobbins at the foot end and place these, one each, on the top front and back lines. Cut the bottom rail at the second samson from the foot end. This provides an opening for the waste can as indicated by Fig. 2. This is convenient and easily removed. Painted cans will indicate to the tender and waste collector the type of waste in each —one color behind each frame.

This idea is practical for all makes of machines except the H&B. The samson at the foot end of the H&B machine is too close except for a 10-inch can. Since most plants are equipped with 12-inch cans this may be solved by cutting a can with a bad bottom short and replacing the bottom with wood. This short can then will slide under the creel at the next samson when not in use. Work in collecting of the waste is reduced to a minimum and the boxes anchored to the machine, floor, posts, and walls are eliminated. What waste containers are more durable than a fiber sliver can?

Fig. 3a in cross section illustrates the Saco-Lowell rail as used normally. Fig. 3aa illustrates the empty bobbin in the new slide as applied to the old rail with screw. This slide is also used on the front rail of the Whitin frame.

Fig. 3b illustrates the Whitin back rail with eye screws for holding the tops of bottom row of roving. The front rail is applied the same as S-L frame. Fig. 3bb illustrates the new rail and slide made of one piece to replace the old. Holes are bored through the piece to hold the top of the roving skewers replacing the eye screws.

Fig. 3c shows the H&B rail made of channel iron with a wooden core. Fig. 3cc shows the same rail with a "Z" iron made of steel fastened to the slide and rail by means of wood screws and stove bolts.

Fig. 3d illustrates the top creel board of the spinning frame. New stock and empty bobbins must be placed on the board at the same time. Fig. 3dd, Remove the sides from the original creel board and apply the bobbin slides to both sides with screws. The slides must be thicker than the board to act as a guide for placing the roving and to keep it from falling from the frame. The bobbins placed in the slide by the spinner are out of the way in replacing new stock and makes collection much easier. Where overhead cleaners are used the slides will act as a cover to prevent the loose ends from wrapping around the roving in the creel and the tops of the skewers. In all instances the slides can be secured from any lumber company equipped to manufacture molding at a very small cost. Section men are able to apply them as it does not require the services of an expert carpenter.

Fig. 4 illustrates the metal waste box hooked to the end of the spinning frame or speeder. The box contains two or more compartments and is made of number twenty-two or twenty-four gauge galvanized sheeting. The edges are rolled at the opening to prevent injury to the spinner. Approximate dimensions are given but they may be changed to meet the requirements of the type frame to which it is applied. Collection of waste is much easier than in the stationary floor boxes and saves much time.

CONTRIBUTOR No. 7019

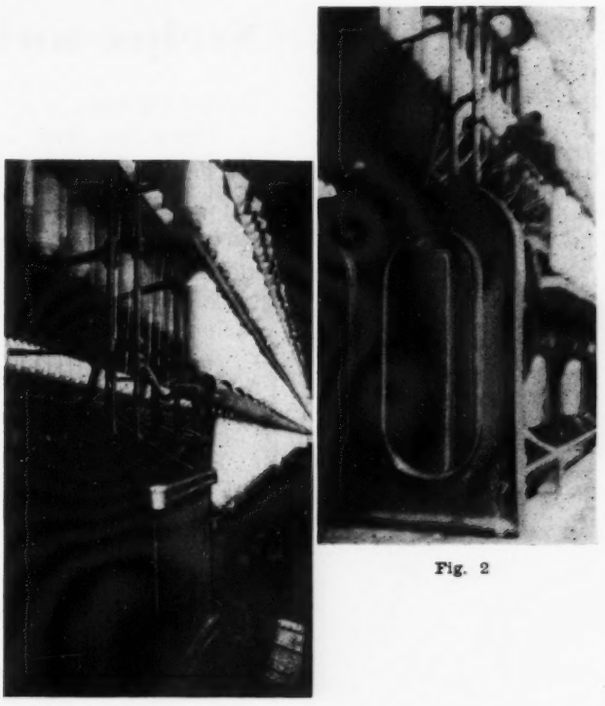


Fig. 1

Fig. 2

(a) S-L creel rail with porcelain step and hole for skewers.

(aa) New slide is applied to rail with screws; counter-sinking the heads

(1) Empty bobbin in slide

(b) Whitin creel rail with eye-screws in the side to hold the bottom row of skewers

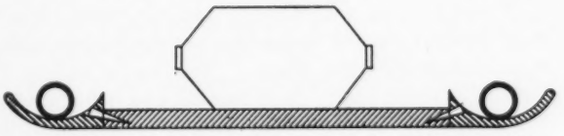
(bb) It is necessary to make an entirely new one-piece rail with holes to accommodate lower row of skewers

(1) Empty bobbin

(c) The H&B creel is narrow and made of channel iron with a wooden core

(cc) The new slide is applied by means of a "Z" iron fastened to the wood and rail with screws and stove bolts

(d) Top creel board of the spinning frame



(dd) The side strips are removed and replaced by the slides, using wood screws with counter-sunk heads. The full package may be placed in the center of the board or on either side to act as a guide in stacking which is customary in most plants. The full package will not interfere with the bobbins in the slide.

Fig. 3

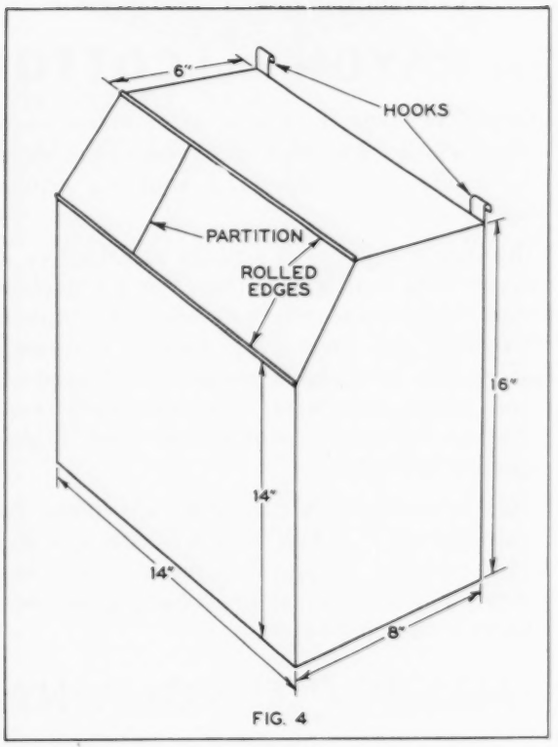


FIG. 4

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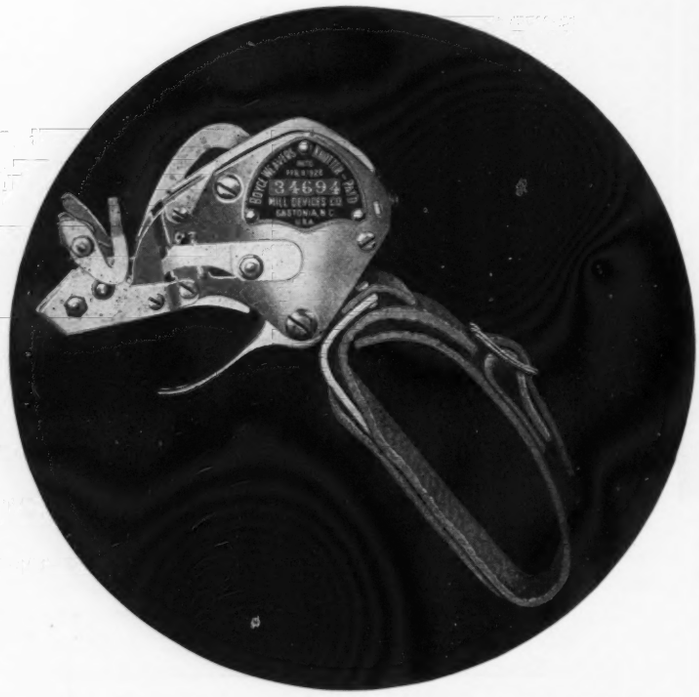

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Strips on Card

EDITOR COTTON:

There has been quite some discussion back and forth at our place pertaining to "what part of the cotton card controls the amount of strips taken out by the top flats?" We hope that some of the readers of this department will answer this question and settle the argument. In answering, please state if too wide a setting of the part causes heavy or light flat strips.

CONTRIBUTOR NO. 7045

An Old-Timer Says—

(*Continued from page* 108)

night, we would put 3 or 4 pounds of melted tallow on top of the size in the kettle, which we believed helped to keep the size in good shape to be used next day. I have said all of this to partly justify our belief that raw tallow does not saponify or thoroughly mix with a solution of starch and water, and that is why we claim raw tallow should not be used in sizing. We think the tallow should be treated to make it thoroughly mix with all other ingredients in the size batch.

The word saponify, as applied to tallow, means soap—a fat treated with an alkali—and sometimes a soap will cause sizing to foam, which is of course objectionable. However, we have used saponified tallow, and other people have used it for years and years, without having trouble with the size foaming.

Now, for a partial explanation as to what emulsified tallow is. One dictionary says emulsion is "a liquid mixture in which a fatty substance is suspended in minute globules." Please note that word "minute" because there is where many of us believe the secret lies—converting the tallow into minute globules so it will thoroughly mix with all ingredients in the size batch. Emulsifying tallow is purely a mechanical process and the machine is called a colloid mill. A simple, but not very accurate, illustration is the grinding of corn or wheat into flour. The colloid mill grinds or reduces the tallow to minute globules in a mixture of water, usually about 50 per cent. Some claim that emulsified tallow is the nearest thing in putting tallow back in the form nature made it.

I suppose it would be a simple matter for a chemist to test emulsified and saponified tallows to see which is the finer solution — probably microphotographs would show.

Colloid mills (machines) are not very expensive; most laboratories of cosmetic manufacturers and paint manufacturers have them. You know tallow is the base of a great many face creams and other cosmetics. I understand that milk of magnesia and codliver oil emulsions are made by the use of colloid machines—

Well confound your old hide, JIM!

He is fast asleep again, fellows, so probably it is time we should all turn in.

Good night!

Handling Colored Filling

EDITOR COTTON:

The following is in answer to "CONTRIBUTOR No. 7068", who asked a question on methods of handling many different colored filling yarns in his weave room. His question was on page 109 of the May issue.

(1) Looms if for 4 or 6 box work must have filling containers so arranged on looms that each color and count of filling can be put in separate container or box so the operator of looms does not have to separate the different colors or counts when he fills magazines or batteries.

(2) By having this arrangement with each box or container properly marked the distribution of filling to the looms is simplified for the filling hauler, elimnating much time for separating filling at looms.

(3) If possible a special filling room should be placed as close to weaving as possible so filling haulers are not required to carry filling a long distance. There should be one or two central points where filling can be obtained readily.

(4) The filling room should have sufficient bins so each color and count of filling can be kept separate and each bin so placed that no mistake is possible on the part of operative taking filling from here to the looms. The bins should be arranged so that each count of different colors are in close proximity to one another, for instance all 40s should be in one room, all 30s in another, 20s in another room and so on. This enables the filling carrier to know at an instance where to obtain certain counts and colors.

(5) Filling trucks in which this filling is transferred from filling room to looms should be built so that several compartments are on one truck, enabling counts on each trip. I find this system more efficient than carrying containers back and forth and exchanging them at the looms.

(6) Should the mills policy be to handle all filling to the looms stuck on peg boards, then filling carrying trucks must be built so the boards can be transferred from truck to looms.

(7) The system laid out in paragraphs 1 to 5 worked very successful and economical in a southern mill, running 28 to 35 different colors daily on battery and box looms with filling seldom becoming mixed.

(8) A competent boy, preferably one who has had knowledge of colors and counts, should be placed in charge of the filling room so he can instruct doffers just what bins filling goes in and supervise operations when removing filling from bins.

Where 40 or 60 numbers and colors of filling are to be handled, I doubt the practicability of moving this filling to the looms on automatic carriers unless the weaving department is free of belts and more space permissible in alleys and around looms.

CONTRIBUTOR No. 7081

(Other answers on this subject will appear in future issue of "Cotton".—The Editors.)

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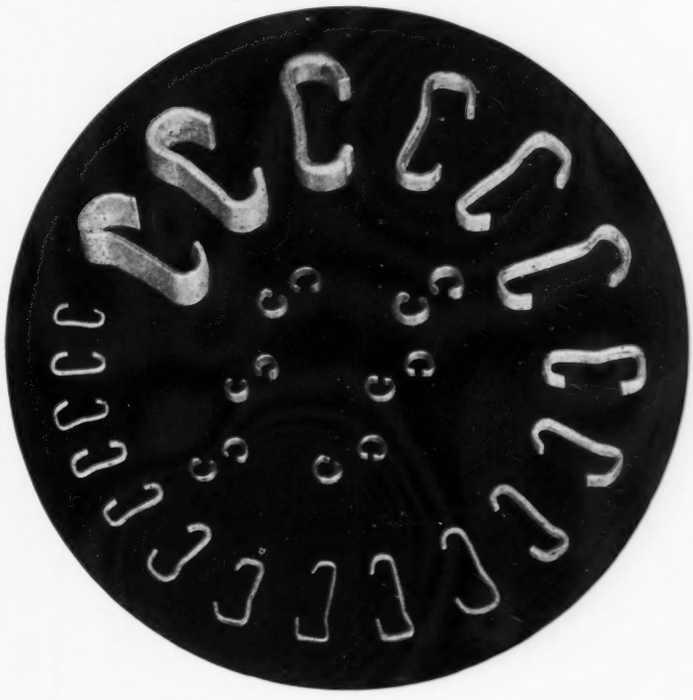

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Cutting Corners Off the Supply Bill

I BELIEVE it was Robert Quillen who said, "Success is simple: you just do your best and automatically get ahead because the others aren't trying very hard." John Simpson was telling me just about the same thing only in different words. John said that he was one of those that were not trying very hard, that is, he had been, but now he was making an effort in the right direction. We were standing near the filling winders and John pointed to a cop holder (he called it a spindle) and said:

"Now just to show you how dumb a fellow can be, I let an old lady show me up on these filling winders; and what's more, she had never worked on a filling winder a day in her life. I told her to be sure to get all the waste off her spindles before quitting time. She was just about like all women, a little bossy and stubborn, and I reckon that's the reason I didn't pay much attention to what she said. She went ahead and cleaned the waste off the spindles and didn't say anything more. We were winding some of that fuzzy Merino yarn at that time and had all of the winders hitting it at top speed, and we were having a hard time keeping oil in the machines. I happened to lean over one of the machines one day and found that each spindle was throwing a fine mist of oil in every direction. And upon closer examination I found that waste wrapped around the spindles had gotten up against the frames and was acting like a wick, sucking the oil right out of the machines and slinging it everywhere."

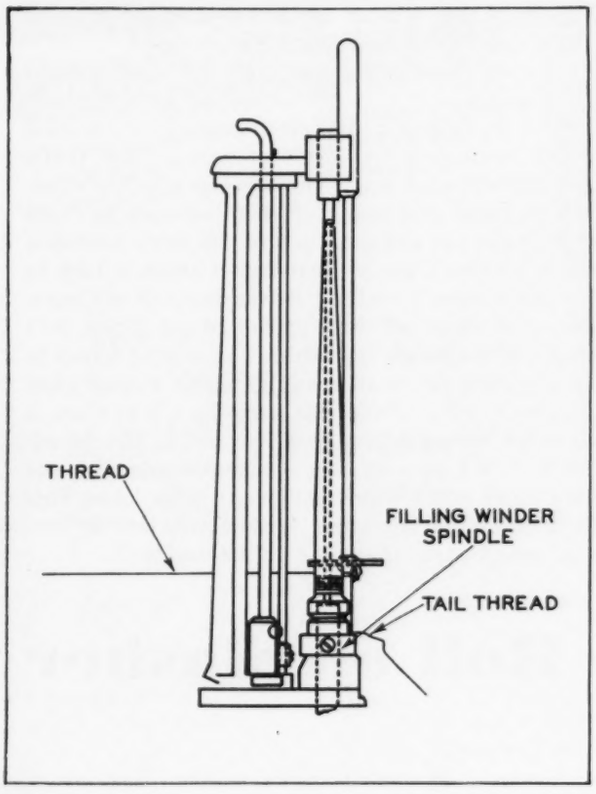
"Is that why you had them cleaning waste off the spindles?" I inquired, and then asked him another question before he had time to answer: "I presume you mean thread waste?"

"Yes, yes, of course," he said. "As I started to tell you, this old lady hadn't worked a day on these winders in her life. We were a little short on filling winder hands so we borrowed her from the big winder room. That very same day she found out why the yarn wrapped around the spindles because on the second day I went around to her winder and happened to notice that every one of her spindles was as clean as a pin. I didn't say anything, but I watched her closely. I noticed that when she started a new bobbin she would always break off the tail thread . . . "

"What's a tail thread?" I asked.

"It's the piece of thread you hold to when you fasten the thread under a new bobbin or quill when first starting it. When you doff a spinning frame the thread automatically catches under the bases of the quills but when you doff a filling winder you have to hold the thread under the bases of the quills until the quills are pushed all the way on the spindles," he said.

"The way I understand it this woman would break off all the excess thread while the other winder hands let this extra amount of thread go and it would wrap around the bases of the spindles," I interpreted.



"That's right," John said, "and when I found out why this thread waste was collecting on the spindles I started all the winder hands to breaking the tail threads off."

"Did that cut down the oil consumption on the winders?" I asked.

"Why it didn't take more than a third as much after that," he said. "But I didn't get the best results until I took out all the spindles and cleaned out the back drains. You see, the thread waste had collected on the spindles so heavy at times that a good deal of it had worked its way to the inside and this had stopped up the back drains."

"When the waste collected on the spindles pretty heavy how much oil would a winder use in the run of a day?" I asked.

"I remember putting a quart in one winder each day. I don't know whether the night section man had put any oil in them or not. I do know that a lot of gears wore out," he said.

"Have you had any gears to wear out since you started keeping the waste off the spindles?" I asked.

"No."

"How long has it been since you started the winder hands to breaking the tail threads off?" I inquired.

"It has been about a year or a little over," he replied.

"How much oil do you have to put in each winder now?"

"It doesn't take but about a quart for each winder every two weeks."

"That's a pretty good saving in oil not counting what was spent for gears," I told him. "Is there any other trouble which you've been able to stop. In other words, have you had any experience on these wind-

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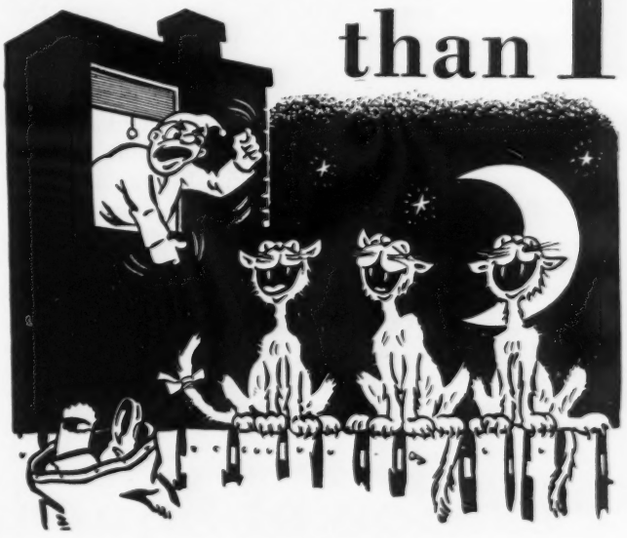

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ers worthy of mention . . . besides what you've just told me?" I asked.

"I can answer that better by telling the experience I had with one of these winders that we didn't use for several years," he said. "For several years we didn't use that end winder over there. Every time we lost a part off these winders or every time a part would break on the winders this way, I would go over to the winder on the end and get whatever part I needed and put it on the others. Of course I did this under orders for it was a firm belief of the management that we would never use that winder again. I thought so too. But time rolled around when that winder was needed. By that time it was picked so clean of parts there wasn't anything left but the frame. It was my task to get up a list of the parts needed to start the winder up. And by George, it took two thousand parts to replace the ones we'd taken off it."

"You don't mean two thousand!" I exclaimed.

"It was just a little over two thousand parts it took to start that winder for I still have the packing list that came with the order," he affirmed.

"Did you take all those parts off that winder yourself?" I asked.

"Well, no, I didn't take all of them off. A good many of them just lost off," he said. "But that's what I started to tell you. The parts on a filling winder are so small and many of them so easy to come loose they get lost and gone before you know anything about it. When I got up that list of parts it took to start that winder I realized it was through my carelessness and others all these parts had got gone. So I started that very day to teaching the winder hands to fix little simple things such as tightening screws when they come loose and for this purpose I left them a small screw driver where they can get to it. In addition to this I go over the winders occasionally and tighten every screw which is liable to work loose. This method of maintenance has worked wonders in saving the small parts that used to get lost."

Position of Squeeze Roll on Slasher

ON PAGES 110 and 112 of the August 1939 issue of COTTON, there appeared an article by two men in answer to the question "Can you tell me the correct running position of the squeeze rolls with reference to the copper roll on the slasher. That is, should the squeeze roll rest somewhat to the front, back, or directly over the center of the copper roll?"

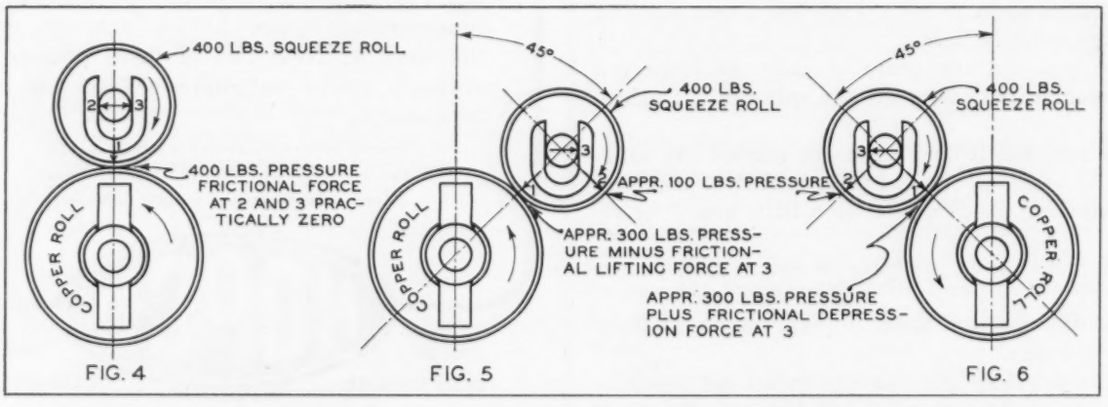
Ivar Moberg, in explaining the position of the squeeze roll that he considered best, prepared the drawing, shown herewith, to illustrate the amount of weight that is placed on the copper roll by the 400-pound squeeze roll. It will be noted that Mr. Moberg indicates that there is less pressure placed on the copper roll by the squeeze roll when the latter is placed at an angle of 45 degrees to the former.

We now have the following interesting comment from a man who is not connected with the textile industry, but who has applied the principle of elementary physics to the problem, and has disagreed with Mr. Moberg's opinion. His letter follows:

EDITOR COTTON:

I was very interested in the article "Position of Squeeze Roll on Slasher", published in the August 1939 issue of COTTON. This was brought to my attention by a gentleman in the textile industry, who noted the similarity between the fundamental mechanics of the slasher problem and a problem we have in the proper location of a set of squeeze or paste rolls in a solid fiber pasting operation (paper plant). As must be the case with the slasher, there are other factors beside nip pressure which must be considered in the actual location of these rolls with respect to each other, but this element of the analysis is common to both the slasher and the paster and it is in this connection that I would like to offer my interpretation of the problem.

My Fig. 1 is a copy of Mr. Moberg's sketch with the rolls located with the nip 45 degrees off the vertical. Fig. 2 is a free body diagram of the top roll while idle, showing all of the external forces acting


400 LBS. SQUEEZE ROLL
400 LBS. PRESSURE FRICTIONAL FORCE AT 2 AND 3 PRACTICALLY ZERO
COPPER ROLL
45°
400 LBS. SQUEEZE ROLL
APPR. 100 LBS. PRESSURE
APPR. 300 LBS. PRESSURE MINUS FRICTIONAL LIFTING FORCE AT 3
COPPER ROLL
45°
400 LBS. SQUEEZE ROLL
APPR. 300 LBS. PRESSURE PLUS FRICTIONAL DEPRESSION FORCE AT 3
COPPER ROLL
FIG. 4
FIG. 5
FIG. 6

The above sketches are reproduced from the August 1939 issue of "Cotton". They appeared with Mr. Moberg's article on position of squeeze roll on slasher. The figure numbers have no particular reference to this article . . .

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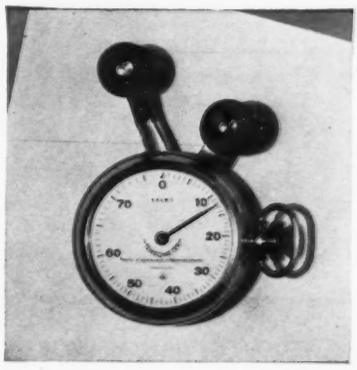

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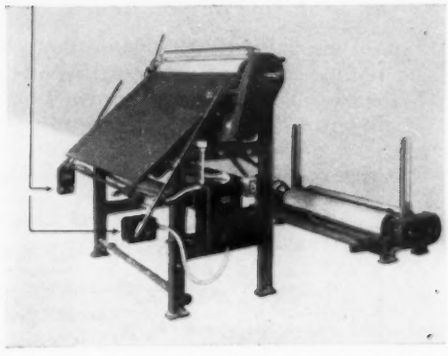

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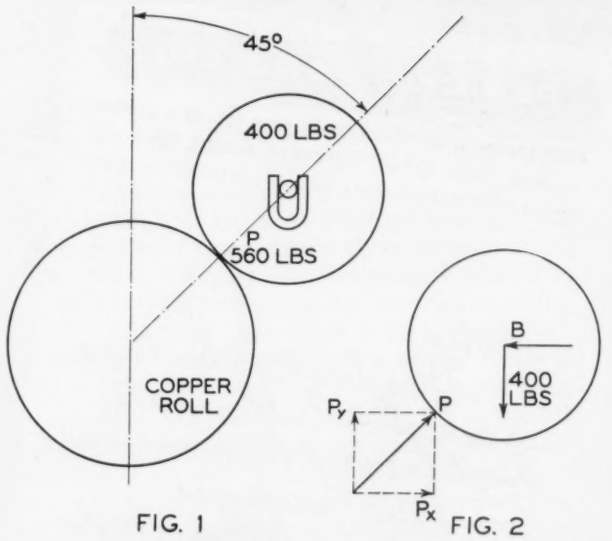

FIG. 1 FIG. 2

The above sketch applies to the letter from "A.G.M." and shows the disagreement in theory of "A.G.M." and the article submitted by Ivar Moberg. The sketch applies to idle rolls and does not take into consideration the effects of friction, etc.

on the roll. (1) The weight of 400 pounds is a vertical force acting down from the center of gravity. (2) The force "B" is the horizontal bearing force, acting through the axis of the roll. (It is assumed that the bearing acts on the roll in a horizontal plane only, that is, if the bottom roll were lowered the top roll would be free to drop in the bearing.) (3) The only other force acting on the roll is the nip pressure which acts at 45 degrees from the vertical by definition.

Since the top roll is static and idle, observing a fundamental law of mechanics, the sum of the vertical and horizontal forces must equal zero. In Fig. 2 the force "P" has been resolved into vertical and horizontal components and by inspection it can be seen that these two forces are of equal intensity. Summing vertically "Py" must equal the weight of the roll or 400 pounds. Since "Py" = "Px" the sum of the horizontal forces must be "Px" = "B" = 400 pounds; therefore, "P" must be the resultant of the two components "Px" and "Py" acting at right angles and both equal to 400 pounds, or "P" must be approximately 560 pounds.

Further analysis of the problem will reveal that the nip pressure will approach infinity as the angle of the nip with the vertical approaches 90 degrees.

The foregoing applies only to idle rolls. I am not familiar enough with the slasher operation to give the effects of friction, etc., of the nip pressure.

A. G. M.

When the letter from "A. G. M." was sent to Mr. Moberg, he readily admitted the mistake in his former article and recommended a correction, at the same time thanking "A. G. M." for calling this to the attention of the editors. However, when several other persons were shown the letter from "A. G. M.", part of them were inclined to believe Mr. Moberg correct in the first place.

This mixes it up quite a bit. What is your opinion?—The Editors.

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188. Form 496—This form enables you to gather your own cost data on your sewing machines and determine whether new Union Special Machines will show big savings. Furnished free by Union Special Machine Co., 400 N. Franklin St., Chicago, Ill.

213. Saco-Lowell Cotton Machinery—Twisting—a 31 page illustrated brochure explaining the company's twisters and parts, including the four basic type twisters, features of new construction and general notes on twisting. Production calculations and specifications are included. Saco-Lowell Shops, 147 Milk St., Boston, Mass.

214. Saco-Lowell Cotton Machinery—Spinning—the second edition of a 56-page booklet, illustrated with the company's product and containing valuable charts, production tables and other spinning data. Saco-Lowell Shops, 147 Milk St., Boston, Mass.

218. Butterworth Electric Guiders—6-page folder describing and illustrating the new Butterworth Electric Cloth Guider. This guider is built on the same principle as the Foxwell Air Guider and is unexcelled for fast, accurate guiding. H. W. Butterworth & Sons Co., Philadelphia, Pa.

223. Alloyed Iron in Southern Industrial Fields—16 page illustrated catalog dealing with the properties available in modern cast irons. International Nickel Co., 67 Wall St., New York, N. Y.

224. "Tank Talk"—Sixteen page booklet of illustrations showing various types of elevated steel tanks, constructed and erected by manufacturers as well as stand pipes, reservoirs, storage and high pressure vessels, cylinders, along with helpful technical data. Also a list of what a few of the cotton mills, etc., said. R. D. Cole Manufacturing Company, Newnan, Georgia.

233. Catalog No. 22—an attractive illustrated catalog describing in detail the Shamrock shipping containers and the new canvas trucks for textile use. Meese, Inc., Madison, Ind.

234. They Stay Brighter Longer—This interesting illustrated booklet containing facts about Mazda lamps will be sent you free on request. General Electric Company, Dept. 166, Nela Park, Cleveland, Ohio.

240. The New Proctor Automatic Yarn Dryer—6 page illustrated folder describing the new Proctor automatic yarn dryer which has the exclusive new Proctor traveling skein protector. Proctor & Schwartz, Inc., Philadelphia, Pa.

253. Brown Air-O-Line Controllers — This booklet will prove invaluable to the men in charge of dyeing, finishing and slashing, as well as the textile executive. 32 illustrated pages describing the various Brown Controllers. The Brown Instrument Co., Philadelphia, Pa.

258. Automatic Overhead Cleaner for Spinning, Winding, Warping and Twisting—24 page booklet showing the new American MonoRail automatic cleaner in operation on MonoRail track circuit over Spinning, Warping, Winding, Twisting, etc. This cleaner incorporates a new scientifically designed blower producing a whirling column of air directed and controlled so that it prevents accumulation of fly with no harm to roving. The American MonoRail Company, Cleveland, Ohio.

259. Cotton Conditioning with Texspray Compound — 18-page booklet describing the Texspray method of cotton conditioning. It has been proven that this method will save money, increase production, increase flexibility of fiber, eliminate static and reduce fly and dust. The Texas Company, New York, N. Y.

260. Lubrication—This attractive booklet contains valuable and interesting articles on loom lubrication and also on spinning design and the function of spindle oils. The Texas Company, New York, N. Y.

261. The Brown Moist-O-Graph—16 page booklet describing the Brown Moist-O-Graph which measures, records and controls the moisture content of cotton warp yarns. The Brown Instrument Company, Philadelphia, Pa.

263. Gastonia Brushes—New catalog and price list showing the complete line of brushes for the textile mill. Gastonia Brush Co., Gastonia, N. C.

271. The New American Adjustable Diameter Wedgebelt Pulleys—Illustrated leaflet describing the American adjustable diameter sheaves designed to produce the best performance in all types of V-belt driven textile machinery. American Pulley Co., Philadelphia, Pa.

272. Where to Buy Monel Metal Textile Equipment—Attractive booklet which lists the names and addresses of experienced fabricators of Monel Metal equipment for the textile mill. The International Nickel Company, Inc., 67 Wall St., New York, N. Y.

284. Morton Nickel Iron Quick Opening Handle Gate Valve—Illustrated leaflet describing the new Morton Valve for dyeing machines, pipe lines, steam and water lines, boiler blower valves and throttle valves. Manufactured in nickel, stainless steel and stainless steel trim. Morton Machine Works, Columbus Georgia.

286. Triton W-30—Study of wetting agents and their activity with recommendations for textile processing. Rohm & Haas Co., Philadelphia, Pa.

289. Caustic Soda Bulletin—a data and reference book designed for the user of caustic soda. Complete with charts, drafts and formulas. Pennsylvania Salt Mfg. Co., Philadelphia, Pa., who also manufactures Hydrogen Peroxide.

290. Hyatt Roller Bearings on Textile Machinery of All Kinds—34 page booklet which describes and illustrates how Hyatt bearings are being applied to textile machinery. Hyatt Bearings Division, General Motors Corp., Harrison, N. J.

295. Fence Facts—A new booklet illustrating and describing chain link fence in a variety of styles and four different metals for every type of fencing installation. Also wrought iron fence in various beautiful styles. A concise handling of information for those wanting facts about fence. Page Fence Association, Bridgeport, Conn.

296. Full-Fashioned Hosiery Manufacture — Illustrated folder giving the history of full-fashioned knitting and describing in detail the different processes in present day manufacturing and the application of Gulf lubricants to the various machinery. Gulf Oil Corporation, Pittsburgh, Pa.

299. The New International Time Recorder—information on the new automatic time recorder which gives complete wage and hour records. International Business Machines Corp., New York, N. Y.

301. Norma-Hoffmann Bearings Catalog — Norma-Hoffmann Bearings Corp., Stamford, Conn.

305. Tannate Belting — leaflet describing Rhoads Tannate leather belts and their uses and advantages in textile mill operation. J. E. Rhoads & Sons, Philadelphia, Pa.

307. Lane Canvas Baskets—16 page illustrated booklet describing the Lane line of canvas baskets for textile use. W. T. Lane & Brothers, Poughkeepsie, N. Y.

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314. Winding Production Chart—this useful production chart can be used for any style of winder. Also included are instructions for figuring yarn takeup speeds. Universal Winding Co., Providence, Rhode Island.

315. How Handling Problems Have Been Solved—a 50-page booklet presenting in pictorial form many solutions to industrial handling problems and showing how they reduce costs, save labor, eliminate storage and provide free movement of stock between processes. American MonoRail Company, 13106 Athens Ave., Cleveland, Ohio.

317. Circular Knitting Machines—a fifty-two page illustrated booklet containing valuable information on the manufacture of transfer top hosiery. Includes illustrations of rib knitting principles, yarn changers, selvage welt, loose course and methods of laying in Lastex. Sent free on request to Fidelity Machine Company, 3908 Frankford Ave., Philadelphia, Pa.

322. The Application of Soaps and Soap Products to Textile Processing—40-page illustrated booklet covering the principal operations in textile processing. Special notes and suggestions are given for those operations requiring soaps or soap products. Colgate-Palmolive-Peet Company, 105 Hudson St., Jersey City, N. J.

323. Textile Processing with Artic Syntex A and T—50-page illustrated booklet describing the properties of these new materials and giving tentative or suggested formulas for a number of applications in textile processing. Colgate-Palmolive-Peet Co., Jersey City, New Jersey.

327. Sanforizing Machinery—Illustrated booklet describing the sanforizing machinery offered by the Textile Finishing Machinery Co., Provdence, R. I. This bulletin is available only to finishing plants or executives thereof.

328. SKF Ball and Roller Bearing Transmission Appliances—84 pages, 100 illustrations, descriptions and dimensions of universal, unit, split and roller bearing pillow blocks, ball bearing drop and post hangers, take-up boxes. Suggestions and dimensional and load data for bearings also given. SKF Industries, Inc., Philadelphia, Pa.

330. Tools for the Textile Trade—a twelve-page booklet illustrating and describing specially selected tools for all textile mill departments—Loom Fixers, Spinning Room Fixers, etc. Snap-on Tools Corporation, Kenosha, Wisc.

331. Unbrako Self-Locking Hollow Set Screw—Bulletin Form 532 includes illustration and descriptive matter of this latest improvement in socket end screws. This bulletin also features the complete line of "Unbrako" Socket Screws. Standard Pressed Steel Co., Jenkintown, Pa.

332. Hard Maple Flooring—an 8½ x 11-inch folder featuring a close-up of Northern Hard Maple Flooring and specimen pieces to show grades, prepared for the convenience of architects, builders and others when considering flooring grade requirements. Maple Flooring Mfrs. Assn., 332 South Michigan Ave., Chicago, Ill.

333. Fafnir Ball Bearings for the Textile Industry—Outlining the applications and advantages of ball bearings on textile machinery. Fafnir Bearing Co., New Britain, Conn.

334. Precision Winding for Silk and Rayon Yarns—Describes the new No. 50 Leesona Winder and all attachments that are used for silk hosiery threads and rayon yarns. Universal Winding Co., P. O. Box 1605, Providence, R. I.

335. Casters and Wheels—192 pages, describing casters and wheels suitable for all types of industrial application. Every mechanical engineer and purchasing agent should have this. Darnell Corp., Ltd., P. O. Box 4027-N, Station B, Long Beach, California.

337. Sizing and Finishing—A pamphlet which will give the mill man an understanding of starch properties which will lead to greater efficiency in sizing and finishing. Stein, Hall & Co., Inc., New York City.

338. Thickening Materials for Textile Printing—Describing materials and methods employed in preparation of color thickening so that it may be properly and economically transferred to cloth through the medium of the printing machine. Stein, Hall & Co., Inc., New York City.

340. Notes on Cotton Warp Sizing—a 45-page handbook giving valuable data on the purposes and properties of various sizing products, their uses and preparation, with much information on the operation of slashing equipment. Will help solve many sizing problems. Address The Hart Products Corp., 1440 Broadway, New York City.

343. SKF Better Spinning and Twisting—16-page illustrated catalog containing technical information relating to construction and performance of SKF roller bearing spindles, tension pulleys, guide and idler pulleys and miscellaneous pulley and bearing applications. Distributed by all leading textile machinery manufacturers and SKF Industries, Inc., Front St. and Erie Ave., Philadelphia, Pa.

346. Dependable Finishing for Modern Elastic Top Hosiery—describing and illustrating equipment for basting and attaching insert elastic, attaching wide or welt elastic and seaming elastic in women's hosiery. Union Special Machine Company, 400 North Franklin St., Chicago, Ill.

347. Rhoplex Resins—Attractive folder discussing the outstanding properties of these Aqueous Dispersions with suggestions for their application to textiles. Rohm & Haas Co., Inc., Philadelphia, Pa.

348. Johnson Ledaloyl Bearing Bronze—Illustrated booklet telling the complete story of Johnson Ledaloyl Bronze, the newest development in self-lubricating bronze for textile bearings and bushings. Johnson Bronze Company, New Castle, Pa.

349. Preview—12 page illustrated booklet describing the Best Universal Locking System which features the interchangeable core and offers a solution to locking problems. Best Universal Lock Co., Indianapolis, Ind.

350. Theoretical and Applied Silk-Soaking—Attractive 28-page booklet outlining methods of silk-soaking and outlining investigations on the soaking, backwinding and degumming of silk. Hart Products Corp., New York City.

351. Wetsit—Leaflet describing Wetsit, a synthetic aromatic compound with excellent surface tension reducing properties; gives rapid wetting out and thorough penetration; available in three strengths. Jacques Wolf & Co., Passaic, N. J.

352. Lupomin—Leaflet describing Lupomin, a new cation active softening agent for all textiles but especially acetates and rayon crepes; odorless, permanent and easily applied; imparts soft, full feel. Jacques Wolf & Co., Passaic, N. J.

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CONTINUED FROM PAGE 121

353. Luposec—Leaflet describing Luposec, a waterproofing agent with great stability; soluble in cold or warm water at all temperatures; suitable for all fibres and especially effective in splash-proofing silk hosiery. Jacques Wolf & Co., Passaic, N. J.

354. Vacuum Cup Pulleys—Leaflet describing the new Vacuum Cup Pulley which gives greater production, less power cost, less maintenance cost, and much longer life to belts and bearings. Vacuum Cup Metal Pulley Company, Inc., Detroit, Mich.

355. Air Conditioning in Cotton Spinning—A technical discussion of the need of adequate humidification and controlled air change in the spinning room of the textile mill of today. Ask for Bulletin 539. Parks-Cramer Co., Fitchburg, Mass., and Charlotte, North Carolina.

356. Parks Textile Specialties—A 14 page bulletin with brief descriptions of the Parks line—Automatic Airchanger—Central Station and Unit Air Conditioners—High Duty, Turbo and Turbomatic Humidifiers—Automatic Regulation—Traveling Cleaners—Portable Dustless Card Stripper—Humidifier Valves and Accessories. Parks-Cramer Co., Fitchburg, Mass., and Charlotte, N. C.

357. Caro-Gant—The Original 100% Active Warp Dressing. Attractive folder describing Caro-Gant the Warp Dressing that makes stronger more elastic warps with a maximum breaking strength and a minimum reduction in elasticity. Hart Products Corp., New York City.

358. Rhonite Emulsions—Attractive bulletin describing the Rohm & Haas complete line of Urea Formaldehyde Resins for Textile Finishing. Rohm & Haas Co., Philadelphia, Pa.

361. Thaumaphos — The textile detergent — Seven page booklet describing Thaumaphos, the wonderful phosphate. Included is a list of the Thauma brands and a survey of their uses in the wet finishing of textiles. Detergent Products Corp., Atlanta, Ga.

362. Leather Belting Calculator—Handy and attractive calculator for determining belt speeds, horsepower per inch of belt widths, etc., will be sent free on request. J. E. Rhoads & Sons, Philadelphia, Pa.

363. Form 769, Condensed Catalog—a 40 page pocket size booklet illustrating and describing sewing machines adaptable for practically all phases of the needles trade. Willcox & Gibbs Sewing Machine Co., 658 Broadway, New York City.

364. The Superlock—Form 828—an attractive two-color illustrated 6-page folder describing the "Fastest Overseaming Machine in the World". Willcox & Gibbs Sewing Machine Co., 658 Broadway, New York City.

365. Catalog No. C-306—a 32 page Standard Conveyor booklet showing numerous actual installation photographs on roller, belt, slat, chain, wheel, live roller, push bar and vertical lift conveyors—also spiral chutes, tiering machines, portable pilers, lowerlifts, record lifts and pneumatic tube systems. Standard Conveyor Co., North St., St. Paul, Minn.

366. Houghto-Size SR—Leaflet describing a new sizing compound for spun rayon warps which provides high breaking strength, greater elasticity and increased weave-room production at low cost. E. F. Houghton & Co., Philadelphia, Pa.

367. Rayon Oils—Leaflet describing three Houghton products used for throwing rayon filling yarns for weaving, as softeners in gelatin and similar solutions used for sizing and as softening oils for yarns, knitted and woven fabrics. E. F. Houghton & Co., Philadelphia, Pa.

368. Surfax W.O.—Leaflet describing a new surface-active chemical which possesses unusual wetting out and softening properties. E. F Houghton and Company, Philadelphia, Pa.

369. Lunkenheimer Catalog 78—136 page catalog describing a complete line of Bronze, Iron and Steel Valves, Boiler Mountings, Lubricating Devices, Air Devices and other specialties. Also included is a section on the thermo-dynamic properties of steam, and a table of shipping weights. The Lunkenheimer Co., Cincinnati, Ohio.

370. Notes on Exsize—Attractive new booklet describing the use of Exsize for desizing fabrics. Included is a review of general sizing and finishing and a flow chart showing the cotton and rayon finishing processes. Pabst Sales Company, 221 North LaSalle St., Chicago, Ill.

371. Aluminum in the Chemical Industry — Published by Aluminum Company of America. Fifty-two pages. Text and illustrations covering adaptability of aluminum and aluminum alloys to chemical industry applications and characteristics governing recommended uses. Aluminum Company of America, Pittsburgh, Pa.

372. Stewart Fences—Illustrated catalog which is a complete text on the subject of fence for industrial uses. Stewart Iron Works Company, Inc., Covington, Kentucky.

373. The Bowen Spinner's Record Book—Handy leather bound notebook which contains a world of useful information as well as tables for keeping accurate spinning data. U. S. Ring Traveler Company, Providence, R. I.

374. Fidelity Spooling Machines—Illustrated booklet describing the Fidelity Spooling Machine and outlining its many applications in the textile industry. Fidelity Machine Company, Philadelphia, Pa.

375. The Fidelity 3 Carrier Back Winder—Folders describing this new backwinder which is used to recover silk in press-offs from full fashoned three carrier leggers. Fidelity Machine Co., Philadelphia, Pennsylvania.

376. Leather Booklet No. 202—Attractive booklet illustrating and describing BONDARON Special Tanned Leather as used in various forms such as Check Straps, Pickers, Harness Straps, Lug Straps, Bumper Straps, etc. Also describes BONDARON Special Tanned Solid Round Leather Belting, Flat Belting and Standard Oak Tanned variety of Leather Belting. Chas. Bond Co., Philadelphia, Pa.

377. The Morton System—Illustrated literature describing the Morton Improved double circulating raw stock dyeing and bleaching machine, the Morton horizontal revolving beam and package dyeing machine and beam bleaching machine, the Morton vertical package and roving dyeing machine. Morton Machine Works, Columbus, Ga.

378. The Victor Circle-D Traveler—Pamphlet describing this important advance in traveler design. Victor Ring Traveler Company, Providence, R. I.

379. Tensometer—Leaflet describing the Tensometer —the new handy device for testing the tension in warping, winding and quilling. Sipp-Eastwood Corp., Paterson, N. J.

29. Continuous Card Stripper—A 20 page booklet describing in detail continuous card strippers, their advantages, the power required to operate, etc. Saco-Lowell Shop, 147 Milk St., Boston, Mass.

30. Lubrication of Textile Machinery—32 pages illustrated. Data covering the economical lubrication of all textile machines. New York & New Jersey Lubricant Co., 292 Madison Ave., New York, N. Y.

62. Rubber Products for the Textile Industry—A 40 page booklet giving a wealth of information on the proper selection, installation and operation of rubber belts, together with charts, showing horsepower rating, pulley sizes, V-belt sizes, also information on all types of hose and rubber covered rolls used in the textile industry. Manhattan Rubber Mfg. Division of Raybestos-Manhattan, Inc., Passaic, N. J.

64. SKF in the Cotton Mills—24 page bulletin describing bearing installations for practically every machine in the textile industry including roller bearing spindle and tension pulley. SKF Industries, Inc., Philadelphia, Pa.

77. Bulletin S 200—Illustrating and describing the new Reeves Variable Speed Drive for spinning and twister frames, explaining its many distinct advantages and giving charted results of exacting tests. Reeves Pulley Company, Columbus, Indiana.

88. Dayton Cog Belt Catalog—A 32 page booklet full of vital information on power drives, plainly and simply assembled and arranged so that anyone can select the proper standard drive for any condition. It also provides data for the calculation of drives where acquired. The Dayton Rubber Mfg. Co., Dept. C-11, Dayton, Ohio.

110. 3-in-One Oil for Industrial Uses—showing the many industrial uses and advantages of this oil. A. S. Boyle Co., Jersey City, N. J.

116. Arcy—Telling in an interesting way the story of Arcy, which completely liquefies ordinary thick boiling pearl starch and its many advantages. Drake Corporation, Norfolk, Va.

117. Anti-Friction Bearings as Applied to Spinning, Drawing and Twisting Frames—This bulletin shows with detailed drawings how a simplified design of roller bearing applications is made to replace the plain babbitt bearings and lists the advantages that are gained. It deals primarily with better continuous production and in consequence freedom from equipment care and repairs. Hyatt Bearings Div., General Motors Corp., Harrison, N. J.

120. Goodyear Mechanical Rubber Goods Catalog—40 page catalog giving practical information and tables helpful in the selection of the proper belting, hose or packing to suit the requirements of the mill. Goodyear Tire & Rubber Co., Akron, Ohio.

139. Textile Detergents—Theory of the use of alkalis and control of pH—This 32 page booklet explains in simplified manner for the benefit of the layman the chemical processes that take place in using textile detergent in the finishing of textile goods. It contains many useful tables and data. Detergent Products Corp., Peachtree Bldg., Atlanta, Ga.

141. V-Belt Engineering Data Book—Over 50 pages of pertinent engineering information including data on selecting a V-belt drive desig- of special V-belt drives, numerous standard tables, charts and belt and sheaves list prices. Manhattan Rubber Manufacturing Div. of Raybestos-Manhattan, Inc., Passaic, N. J.

154. Johnson Bronze Bulletin No. 340—showing over 800 sizes Johnson general purpose bronze bushings. Johnson Bronze Co., New Castle, Pa.

155. Link-Belt Catalog 1574 on the P. I. V. Gear—giving details of this positive variable speed control. Link-Belt Co., 307 N. Michigan Ave., Chicago.

156. Link-Belt Engineering Data Book No. 125—showing features and giving engineering data on Link-Belt silent chain drive. Link-Belt Co., 307 N. Michigan Ave., Chicago, Ill.

157. Grading Rules and Complete Specifications for Laying and Finishing Maple Floors—Maple Flooring Manufacturers' Association, 1794 McCormick Bldg., Chicago, Ill.

163. Roto-Koner—Bulletin describing the new No. 44 Universal Winder, known as the Roto-Koner for winding knitting yarns, which has many new and distinctive features. Universal Winding Company, P. O. Box 1605, Providence, R. I.

164. Johnson Rotary Pressure Joints—Bulletin describing the rotary pressure joint which requires no packing, no lubrication and no adjustment, giving installation and maintenance instructions, types, sizes, dimensions and prices. The Johnson Corp., Three Rivers, Mich.

168. The Tube-Tex for Tubular Knit Goods—Bulletin describing this modern machine which extracts, processes, dries, conditions and folds in one continuous operation, lowering costs, saving labor, power, space and waste. H. W. Butterworth & Sons Co., York and Cedar Sts., Philadelphia, Pa.

170. Gates Textile Accessories—showing the increased efficiency and economy to be secured through the use of Gates cone belts, evener belts, card bands and loom binder cushions. The Gates Rubber Company, Denver, Colo.

171. Design of V-Belt Drives—48 page booklet full of valuable tables and data showing the type, number and design of V-belts that will give the greatest efficiency on each particular drive. The Gates Rubber Company, Denver, Colorado.

176. Sonoco Products—A 60 page illustrated booklet giving descriptions, specifications and charts of the many Sonoco products, including bobbins, cones, tubes, cork cots, roving cans, spools, rolls, etc. Sonoco Products Co., Hartsville, S. C.

184. Speed Control Handbook T-35—new reference book in variable speed control, said to be the most complete and helpful book on this subject ever published. 112 pages and more than 200 illustrations of interest to every production executive, purchasing agent, superintendent, overseer and master mechanic. Reeves Pulley Co., Columbus, Ind.

185. Dulux—The White Finish That Stays White—New book describing the new ten-point finish for factory walls and ceilings, the finish that stays whiter, stays cleaner and stands repeated washing. E. I. du Pont de Nemours & Co., Finishes Division, Wilmington, Del.

187. The Wildman Single-Head Full-Fashioned Hosiery Machine—Literature on request from the Wildman Mfg. Co., Full-Fashioned Division, Norristown, Pa.

COTTON, Grant Bldg., Atlanta, Ga.

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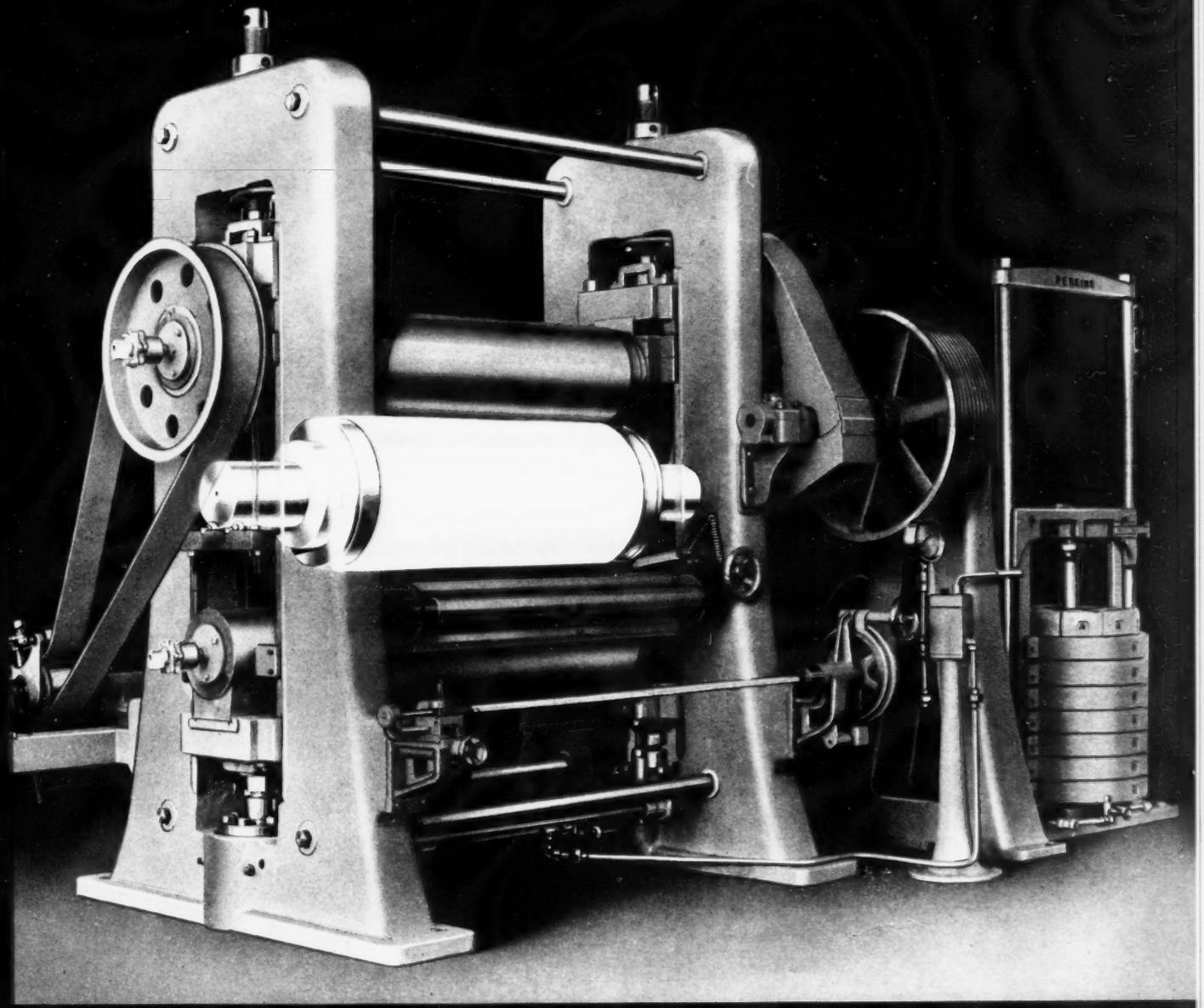

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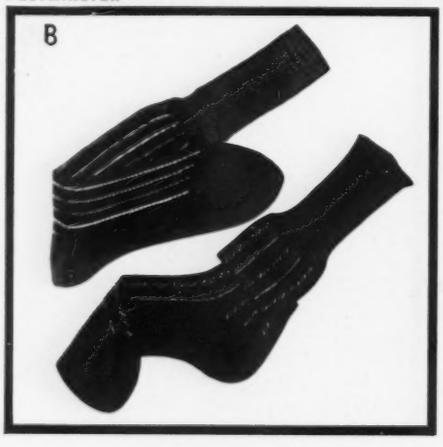


OLDER WOMEN TAKE UP THE HIGH SOCK

Newest of developments in the knee length Links-and-Links sock is its graduation from a "youth" style to accepted fashion for smart women of the 20-to-40 age. LIFE, alert to the news interest of this fashion, devoted an entire page in its May 6th issue to a write-up and photographs of an older woman wearing the knee sock and dressed in a short skirt and jacket costume designed for her mature figure—a Lord & Taylor ensemble in their new "Copper Penny" color. Reports from this and many stores throughout New York show that the sale of knee socks to older women has been constantly increasing. The pattern makers, too, are now featuring costumes to go with the knee sock. Shown here is Advance Pattern 2513, of which 790,000 will be sent to Advance customers throughout the country, with an illustration of a Links-and-Links high sock.

THE NEW SOCK-AND-STOCKING IDEA

Interesting, and perhaps foreshadowing a new tack, is the discovery that many women, particularly of the more mature type, prefer to wear sheer silk stockings without a seam underneath the knee sock—because it is the only way to obtain bare knee chic without actually baring their legs. One of the New York stores with a large suburban clientele reports many sales of circular knit stockings for this purpose. The center illustration at the far left shows how successfully a stocking of this type, made on the Scott & Williams 3-feed Gussetoe K Machine by the Hanes Hosiery Mills Co., gives the illusion of bareness. There is a splendid opportunity for profitable merchandising in this idea of "the bare leg stocking with the bare knee sock."

WESTMINSTER

NEW TWO-COLOR INGRAIN MEN'S SOCKS

From Westminster Hosiery come two new sets of men's socks that show some interesting new ideas developed with Scott & Williams machines. Group A shows a short sock which comes in two tones of one color, and a regulation length sock with a neat Ingrain pattern of navy blue and red.

In Group B are two new Westminster lisle socks with wrap patterns that show why wrap hose is no longer a specialty but definitely a staple with a rapidly increasing sales volume. The first shown is a blue sock with vertical wrap stripes of alternating light blue and white. It is one of this company's exclusive "Garterite" socks with a special two-way stretch top. This is a fifty-cent cotton, silk and rayon sock. The last number shown is a new thirty-five-cent Westminster fall number of cotton and rayon with a two-color wrap pattern and a two-tone wrap stripe—made on the Scott & Williams HH-PW machine.

There is a splendid opportunity to develop new business with the many interesting effects possible on Scott & Williams wrap machines. Our staff will be glad to give you further information on the machines mentioned on this page.

SCOTT & WILLIAMS, INC., 40 Worth Street, New York, N. Y.

Established 1865

KNITTING SECTION

Commission Knitting

A RECENT inquiry to the editors of COTTON asked for specific information on the handling of commission knitting. The question, coming from a manufacturer of full-fashioned hosiery, is repeated in full:

"We have been having some full-fashioned hosiery knit for us on a commission basis; we supply the silk. All of the silk is tested on a 26/11 basis, and periodically we have the hosiery made therefrom tested also.

"We weigh up 25 dozens of size 9½ and obtain the average weight. Then we send the five dozens which are closest to the average weight to a recognized testing company, which determines the ounces per dozen of thread and submits a report based on a 26/11 basis. To this we add the waste allowance, which gives us the ounces per dozen the knitter is responsible for. We might mention that the size assortment we give the knitter averages 9.59.

"When a contract has been completed, we add up all the silk by threads, which has been shipped to the knitter (based on a 26/11 basis) and then average the hosiery analysis. From this figure, and the number of dozens received, we calculate how many pounds of each thread should have been used. We know what actually was used, and can then determine the actual waste, and either charge or credit the knitter accordingly.

"It has been brought to our attention that this method is not correct and that the only accurate method is to have every 100 dozen bag of hosiery weighed by the testing company, and one in five fiber weighed. The conditioned weight so obtained, of all of the hosiery, would then be compared with the conditioned weight of all the silk shipped and the amount of waste so determined.

"Our mill does not necessarily distrust our commission knitters, but 'to err is human' and we think it is a good plan to check up on the other fellow, just as we would expect him to check on us."

In order to get a cross-section opinion on this subject, the inquiry was passed along to several mill men, the first of whom replied as follows:

During my experience with full-fashioned hosiery I have bought some goods in the grey, have sold quite a lot of grey goods, and have done quite a bit of commission knitting, but the question of boil-off, waste and other technical questions of testing have never arisen.

In buying grey goods we had them made up to our specifications, at prices satisfactory to the seller, with a reasonable tolerance for seconds, buying goods on the run of mill basis.

In selling grey goods we operated exactly the same way.

In commission knitting we took the other manufacturer's silk, knitted it into hosiery, and shipped waste accumulations along with the hosiery. Through all of these experiences we never had a single question of dissatisfaction to arise concerning quality, or dozens or waste. So my attitude in the matter would be one of making contracts with reputable mills and not go to the trouble of worrying myself with whether or not the other fellow is doing the right thing.

Any question of quality, specification, etc., will readily develop in the regular routine of finishing operation.

It is admitted that there is plenty of ground for having all of the indicated technical tests made where the transactions cannot be carried out in mutual confidence, but so far as I am concerned, I would not care to do business with a concern where such close technical follow-up was felt necessary.

To start with, the raw silk is tested at time of purchase as to grade and moisture content. If the silk is manipulated by reputable throwsters, full information is supplied as to boil-off, regain, etc. On this basis, if a manufacturer is having commission knitting done he has first hand information as to the condition of the raw silk being sent to his knitter, and should be thoroughly familiar with the analysis of the stocking he has made, which permits a very close check of

silk poundage in grey goods. The finished goods will mighty quickly, reasonably determine questions of quality, specifications, etc.

Another manufacturer of full-fashioned hosiery replied in answer to the inquiry: We feel that this man's present method as outlined is quite satisfactory. The only other suggestion that we might make is that a 5-dozen test be made by the testing company at different intervals during the life of the contract.

One 5-dozen test to determine the weights is hardly accurate because there will be a variation in weights due to the variation in the denier weight of silk knit into the stocking at different times. For instance, a 10-bale lot of silk on the fine side of 14 denier would weigh less per dozen than the same stocking knit from a 10-bale lot of silk with a denier weight on the heavy side of 14 denier. For this reason it would be well to have three or four tests made of stockings knitted from different lots of silk in order to get a better average.

It would be a rather expensive procedure to test every 100-dozen bag of hosiery at the testing company, and in the end we do not think the mill would have a more accurate test than by following the foregoing procedure.

The next man to answer this question assumed that the inquiry covered the procedure between the manufacture and the customer, on a commission knitting basis, and then replied as follows:

The only satisfactory procedure we know about and have had experience with, is where a material cost or requirement schedule is made up, based on an analysis made by a reliable testing house. Twenty-five dozen hose are knit according to the specifications furnished on length, courses, etc. Out of these 25 dozen, the 5 dozen which are most nearly the average weight, are sent to the testing house. The size on which the weight is taken is invariably size 9½, unless a standard size assortment does not obtain. The actual weight at which the testing house arrives on the designated boil-off basis, plus 5 per cent allowance for waste, is the amount of silk which the manufacturer is entitled to. Of course, all silk is shipped on a conditioned weight basis.

For the final settlement, the procedure should be to take the dozens produced, times the amount of material allowed per dozen, equals the total amount of material allowed. This amount subtracted from the amount of material furnished will indicate the loss or gain.

The knitter, of course, benefits by any gain that he may have and is responsible for any loss, and the value of the loss or gain shall be figured on a basis as agreed upon when the contract is made. This is the procedure followed by many factories under contract for commission knitting.

The next answer again brought out the point that there must be mutual confidence in a contract for commission knitting. The reply is given herewith:

If it is necessary to check a manufacturer, the only correct method would be to have every 100-dozen bag of hosiery weighed by the testing company. The conditioned weight so obtained would then be compared with the conditioned weight of all the silk shipped and the amount of waste so determined.

However, it remains to be seen whether the cost of determining the amount of waste will be as much or more than the actual waste involved. On the other hand, if it is a question as to honesty, we do not know of any other check than the conditioned weight check.

We have for years supplied thrown yarn to commission knitters. However, inasmuch as we were throwing our own yarn, we had a different method of checking up; we know the material content of each thread, and we had the commission knitter take a fiscal inventory at the end of each month, of unopened silk on hand, silk on the machines, and unshipped made up goods. Thereby, we could very easily see whether the commission knitter kept within his limits. However, it is an entirely different matter when silk is being shipped from the throwster to the commission knitter, as it will then be necessary to check up two sources instead of one.

The final answer to the inquiry is as follows: From the text of the question, we understand that this mill has been using what is technically referred to as the "number basis" method in calculating the silk clearance. This basis provides for a credit to the commission knitter based on the number of dozens of hosiery delivered extended at the average weight of silk per dozen established by periodic tests made by a testing company, plus the percentage of waste allowance which had been mutually agreed upon. We notice that no mention is made of the frequency with which the hosiery is tested and this is an important point.

We further understand that the mill has been advised that the only accurate method to use is to have all of the knitted hosiery shipped to the testing company for weighing and that from every five bags containing 100 dozen each, one bag should be picked from which an average stocking is selected for a test weight of the fiber content. This method is technically referred to as the "weight basis".

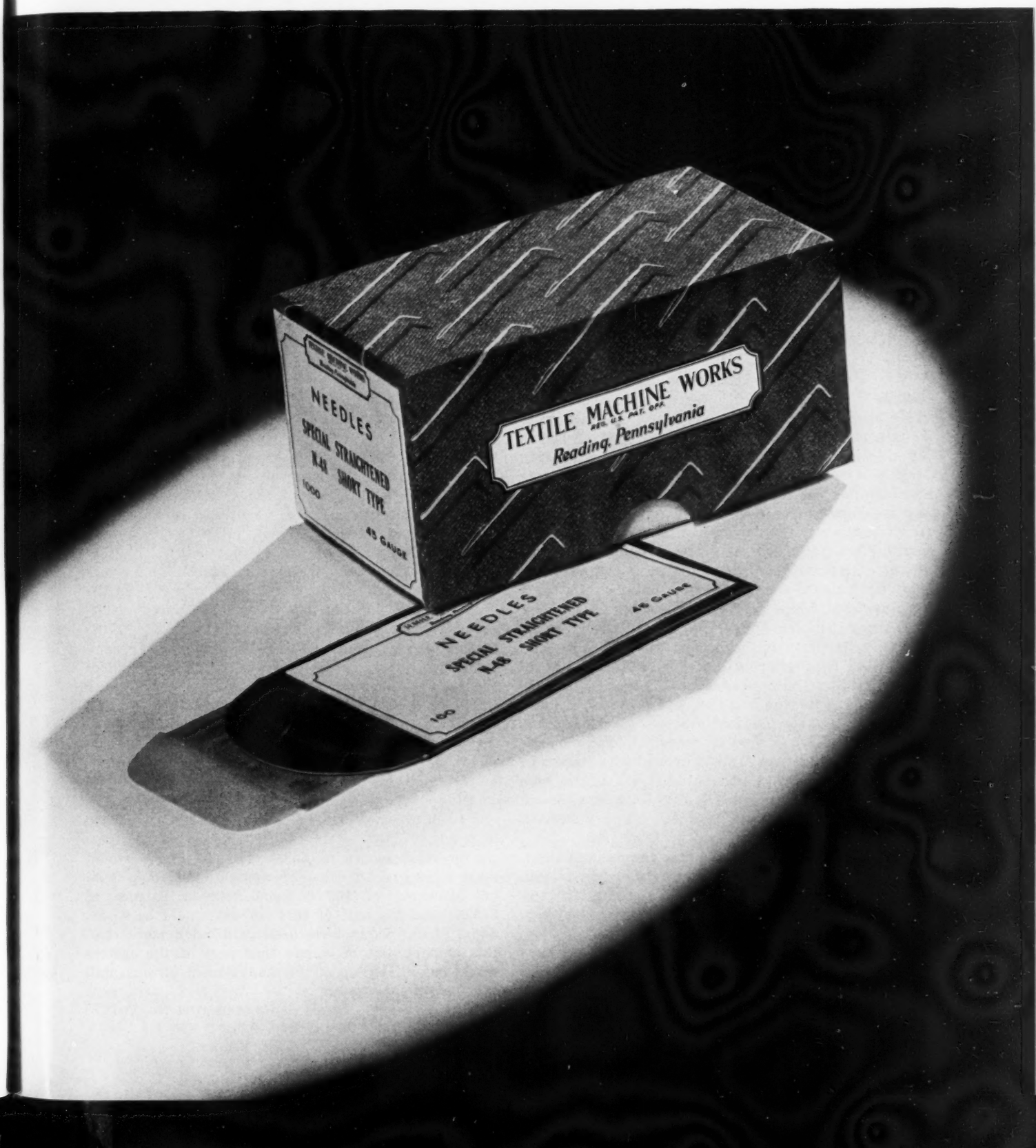
No Uniform Procedure

As far as we know, there is no single procedure which is followed uniformly in calculating the silk clearance in connection with commission knitting. The method which would have to be followed in an individual case would be the one specified in the commission knitting contract. We have been informed that in some cases a sample stocking together with specifications and an agreed upon test weight are made a part of the commission knitting agreement.

We find that the method in general use is the "number basis" and that there are variations in the way in which this method is followed. We refer to variations in the way in which the average stocking is selected for test and the frequency with which the hosiery analyses are made for test weight of fiber content. We do not know of any case where the "weight basis" is used. This can be explained by the reluctance of hosiery companies to pay the extra freight charges involved in shipping all of the hosiery to the testing company and to suffer the loss of time in further processing the hosiery which would result from having all of the hosiery pass through the testing company.

(The editors of COTTON will be glad to receive further comments on this subject of commission knitting.)

"... and now a better packing for a better needle."



Bonus System on Knitting Needles

EDITOR COTTON:

As far back as history records, employers of labor have tried various means or incentives to get the most work out of their employees. When the children of Israel were in bondage to the Egyptians their taskmasters used whips, and they were forced to work long hours; the taskmasters made their tasks hard, not so much to make them turn off more work, but in order that their lives might be made as miserable as possible. In the time of our grandfathers, when negroes were used as slaves, their masters on occasion used the whip when necessary, but in this case it was done to make them turn off more work. Less than a quarter of a century ago the best boss, or rather the one who was considered the best, was the man who could do the best job of "bawling out" his employees. However, in recent years employers have decided that there are better incentives than the whip or the professional "cusser-outer" or hard boiled type foreman. It now seems that the best incentive is the profit-sharing system or some kind of bonus.

There are a thousand and one different kinds of bonus that have been tried in the hosiery mills of the South; some of them are good and some are not so good. One bonus that we have tried is the waste bonus. We allowed the knitter and fixer a certain percentage of waste, and the lower they ran their waste the higher the bonus paid. If every operator were strictly honest this would be a good type of bonus, but this is not true. This kind of bonus was being tried in a certain southern hosiery mill and the management thought it was working perfectly until one day the knitting foreman invited one of his knitters to go hunting with him and on a certain Saturday morning the foreman went to the home of the knitter and of course the small son of the home had been told that his father's boss was going to take him on a hunting trip. When the foreman knocked on the door the knitter rushed to open it and his son was right behind him. As soon as the father opened the door and he and his boss exchanged good mornings the small son said: "Now you needn't ask me if my daddy burns waste 'cause I ain't goin' to tell you." From this you can gather that this kind of a bonus has flaws in it.

Then there is the seconds bonus, where the operatives are paid a bonus for low percentage of seconds. Of course it is easy to understand that a knitter who would burn waste would also destroy seconds, although I do not know of an instance like the father and son case to which I referred.

Still other mills employ the task or production system where the operator is given a task or a certain amount of production and is paid a bonus for any amount of dozens above this amount. This system has been found to be very satisfactory.

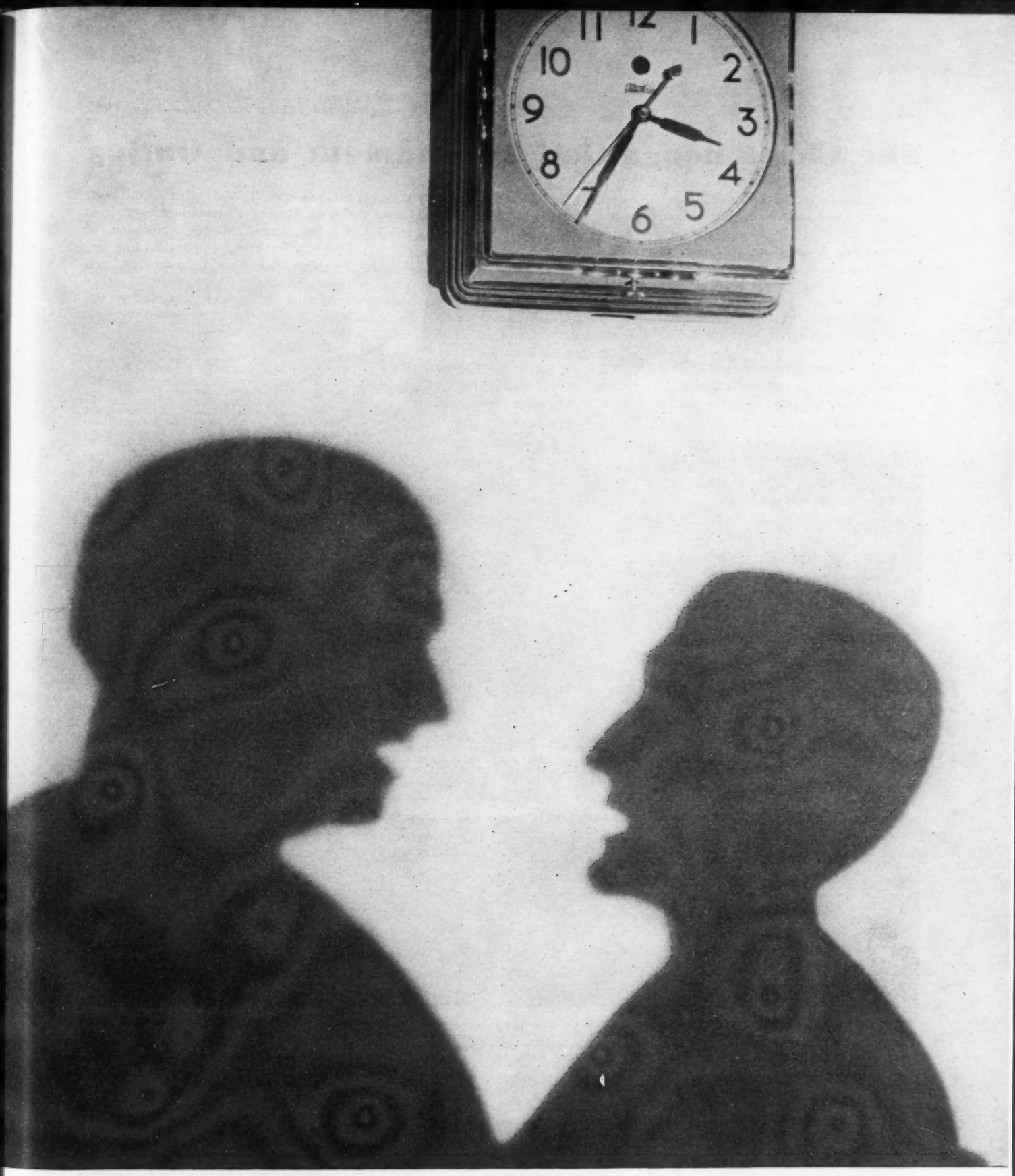
The most satisfactory bonus system that we have ever tried is a needle bonus. We found that we were spending entirely too much for needles and we realized that by reducing needle breakage we would not only be saving the cost of the needles but we would also be reducing our waste and seconds, hence, we were killing three birds with one stone. We were able to cut our needle cost in half in a few short months, but we were not satisfied with that so we kept right on until we had reduced it to about one-third of its original cost. Needless to say, our waste and seconds were reduced accordingly. When a fixer would have a smash-up and break a lot of needles he would realize that was taking good money right out of his pocket, so he would not start the machine again until he was sure that he had found the thing that caused it to smash up and had it repaired. Naturally, when we stopped so much needle breakage our production picked up because our machines were not stopped so much.

Here is how the needle bonus system is worked: The fixer makes out a written requisition for the number of needles that he wants; he also states the gauge of the needles. These requisitions, which bear his work number and signature, are filed away until the end of the month, and then they are added up and are charged to his account, according to the actual cost of the needles. He is allowed a certain amount per dozen for needles and a record of the number of dozens he produces is also kept. At the end of the month his dozens are multiplied by the amount allowed per dozen. If the amount that he has been charged for needles is less than the total of his allowance, his needle cost is subtracted from his allowance and he is paid one-half of the savings.

In using this type of bonus, there is no waste to be carried out and burned and no seconds to be destroyed, and at the same time we are saving tremendously on our seconds and waste as well as on our needles. It would probably be surprising to the average manufacturer to know just how much can be saved on his needle cost. Now of course I would not have your readers think that this bonus system is perfect, because it most certainly is not, but it has done more for us than anything we have ever tried.

If one of our fixers uses more than his allowance for needles in any given month he simply goes in the "red" for that amount and it must be cleared up before he is paid any more bonus. For the sake of illustration let us assume that the fixer is allowed two cents per dozen for needles and he produces three thousand dozens per month. His needle allowance would be $60.00. Now let us suppose that he used $65.00 worth of needles; that would mean that he is in the "red" in the amount of $5.00. Then the next month he would produce the same number of dozens, but because he had found the cause of some bad smash-ups that he had had the previous month, and had fixed his machines, he had reduced his needle cost to $40.00. Taking into consideration his balance from the previous month of $5.00 plus the $40.00 would make a total of $45.00. This amount subtracted from his allowance of $60.00 would leave a balance of $15.00, and his half of this amount would be $7.50. Some of our fixers have been paid much more than this amount, but of course that part of the system would be entirely up to the management of each mill who put in this system.

CONTRIBUTOR NO. 7073



"Whilst we deliberate how to begin a thing, it grows too late to begin it"
QUINTILIAN

In a 40-hour week the new READING high-production twenty-six section forty-five gauge full-fashioned knitting machine produces 97 per cent more volume and 116 per cent more value than the ordinary eighteen-section forty-two gauge machine.

TEXTILE MACHINE WORKS • READING, PA.

The Chattanooga Golf Tournament and Outing

YARN manufacturers and their salesmen, and a group of knitting machinery and supply manufacturers, played hosts to knitting mill men at the 15th annual spring golf tournament and outing of the Chattanooga Yarn Association. The event took place on Thursday and Friday, May 23 and 24, at the Lookout Mountain Hotel, near Chattanooga. There was a good attendance, and general participation in the tournament, although the weather man failed to co-operate and golf on Thursday was played in a steady downpour. Everybody had a good time, though, as is customary at this enjoyable event.

The chief feature was a 36-hole golf tournament, with 18 holes on Thursday, and the other round on Friday. Prizes for the golf tournament were supplied by the members and associate members of the association.

When all scores for the 36-hole contest were in, Woods Huff, of Rockwood, Tenn., was the winner for low net. George R. West, Jr., and Rowell Carter, both of Chattanooga, were tied for low gross. Walter Thompson, of Torrington, Conn., won second low net, and Jim Cassell of Chattanooga, won third low net. There were 33 other handsome golf prizes, awarded to the following, in the order listed, according to their net scores:

Reid Murphey, Chattanooga; **Jerry Ashe**, Knoxville, Tenn.; **Arthur Schautz**, Scranton, Pa.; **Garrett Johnston**, Chattanooga; **Henry Bryan**, Chattanooga; **Archie Fortune**, LaFayette, Ga.; **Ernest Clark**, Rome, Ga.; **R. P. Hardeman**, Trion, Ga.; **J. H. Davenport**, Chattanooga, Tenn.; **George C. Szabo**, Knoxville, Tenn.; **Jim Huff, Jr.**, Rockwood, Tenn.; **Davis E. Williams**, Griffin, Ga.; **George M. Porges**, New York City; **J. Lee Kreger**, Winston-Salem, N. C.; **Eugene Shea**, Acworth Ga.; **R. J. Fisher, Jr.**, Athens, Tenn.; **E. W. McMillin**, Chattanooga, Tenn.; **Peyton Carter**, Chattanooga, Tenn.; **J. H. Asbury**, Chattanooga, Tenn.; **B. J. Bandy**, Dalton, Ga.; **J. P. Marchington**, Rome, Ga.; **John Stickney**, Charlotte, N. C.; **A. H. Thatcher**, Chattanooga, Tenn.; **Roy Mann**, Trion, Ga.; **Fred Johnston, Jr.**, Chattanooga, Tenn.; **W. A. Enloe**, LaFayette, Ga.; **Karl Ginter**, Charlotte, N. C.; **W. L. Coggins**, Chattanooga, Tenn.; **R. V. Reece**, Elizabethton, Tenn.; **A. G. Myers**, Gastonia, N. C.; **Henry Crumbliss**, Chattanooga, Tenn.; **L. C. Davis, Jr.**, Cleveland, Tenn.; and **Wm. H. Newton**, Rome, Ga.

Henry Bryan also won the Bob Smith Trophy, presented by the late Robert P. Smith, for competition by Chattanooga knitters, and to be won three times for permanent possession.

There were other formal and informal types of entertainment, including a skeet shoot, prizes for which were won by Hubert Vestal, Athens, Tenn.; Joe Ballentine, Anderson, S. C.; Homer

Photos made by John C. Fonville of "Cotton".

The foursome on the putting green at Chattanooga includes, left to right: **Frank Dudley**, of Climax Hosiery Mills; **B. J. Bandy**, of Dalton; **Robert P. Shapard**, of Spaulding Knitting Mills; and **Rowell Carter**, of Carter Brothers, Chattanooga. At the right, the two "choosing up" are **Henry Blake**, left, and **Carl Epps**, right, of Torrington Company.

In the "fivesome": **Carroll Blomgren**, of Central Franklin Process Co.; **Frank Strain**, of Redwine & Strain; **Allen Traver, Jr.**, and **Ed Windle**, of Central Franklin Process Co.; and **Bill Strain**, of Redwine & Strain. Center foursome: **Fred Johnson** and **Bill Bailey**, of North American Rayon Corp.; **Bill Barnhardt**, of Barnhardt Bros.; and **Mack Ulmer**, of duPont. Last foursome: **N. W. Ashe**, of Ashe Hosiery Mills; **Ernest Clark**, of Southern Craft Co.; **Darden Hampton**, of Avondale Mills; and **R. J. Fisher, Jr**, of Athens Hosiery Mills.

At lunch, left to right: **W. H. Newton**, of Primrose Tapestry Mills, Rome; **Karl Ginter**, of Industrial Dyeing Corp., Charlotte; **F. Muschamp**, of Tubize-Chatillon Corp.; and **J. P. Marchington**, of Tubize-Chatillon Corp. Next, **Fred Sails**, of Atwood Machine Co., addresses the ball with **Jim MacDougall** of Smith, Drum & Co., looking on. Seated under the pine tree are: **Frank Lunday**, of duPont; **R. C. Anderson**, of Carolina Process Co.; and **Bill Davis**, of American Viscose Corp.

Harle, Cleveland, Tenn., and A. P. Gumaer, New York City.

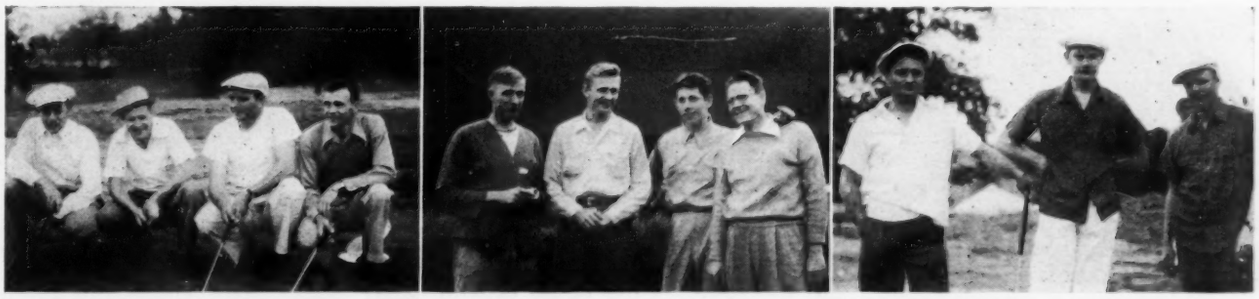
On Thursday and Friday evening, dinner was served the entire group, with a floor show on each occasion. Prizes for the golf and skeet tournament were awarded at the banquet on Friday evening.

Members of the association are: American Viscose Corp., W. W. Crews, Barnhardt Bros., Roy Bradley, Cannon Mills, Inc., Celanese Corp. of America, Central Franklin Process Co., Dixie Mercerizing Co., duPont Co., Walter T. Forbes Co., Gate City Cotton Mills, C. D. Gott Co., R. H. Griffith, Grove Silk Co., Industrial Rayon Corp., Johnston Mills Co., Kahn & Feldman, Katakura Corp., R. D. McDonald, Tom Moore, North American Rayon Co., Ray-Ser Dyeing Co., H. O. Shuptrine, Standard-Coosa-Thatcher Co., Textiles, Inc., and Tubize-Chatillon Corp.

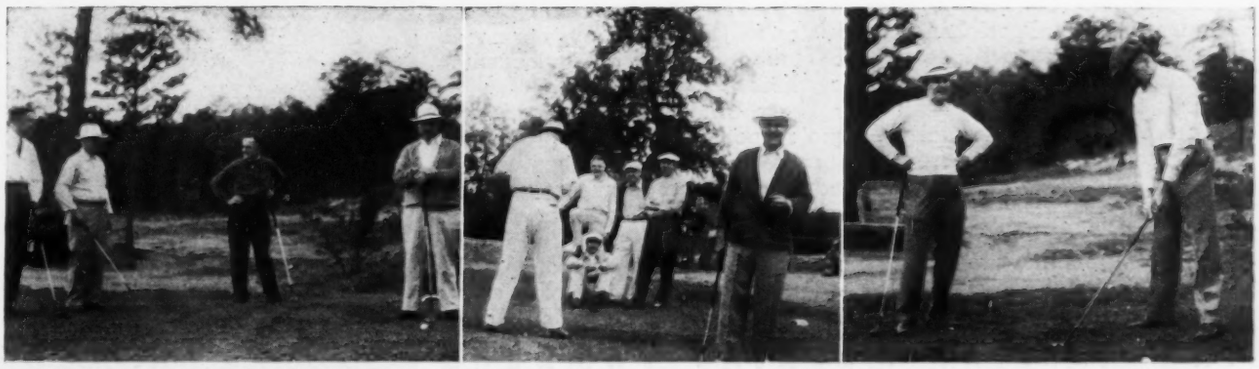
Associate members are: Fidelity Machine Co., Hemphill Co., Kaumagraph Co., Laconia Needle Co., Paramount Textile Machinery Co., Scott & Williams, Inc., Smith, Drum & Co., Textile Machine Works, and Torrington Co.

Bud Johnston, of Textiles, Inc., checks out **Elmer Kelly**, of Dayton Hosiery Mills. Center: **Perc Thompson**, of Textiles, Inc.; **Gene Shea** of Unique Knitting Mills; and **Bill Jackson**, of Industrial Rayon Corp. Next group: **Dudley Bryan** of Tubize-Chatillon Corp.; **A. G. Myers**, of Textiles, Inc.; **Leonard Smith**, of Tubize-Chatillon Corp.; **Brown Mahon**, of Dunean Mills; and **Frank B. Scull**, of Tubize-Chatillon Corp.

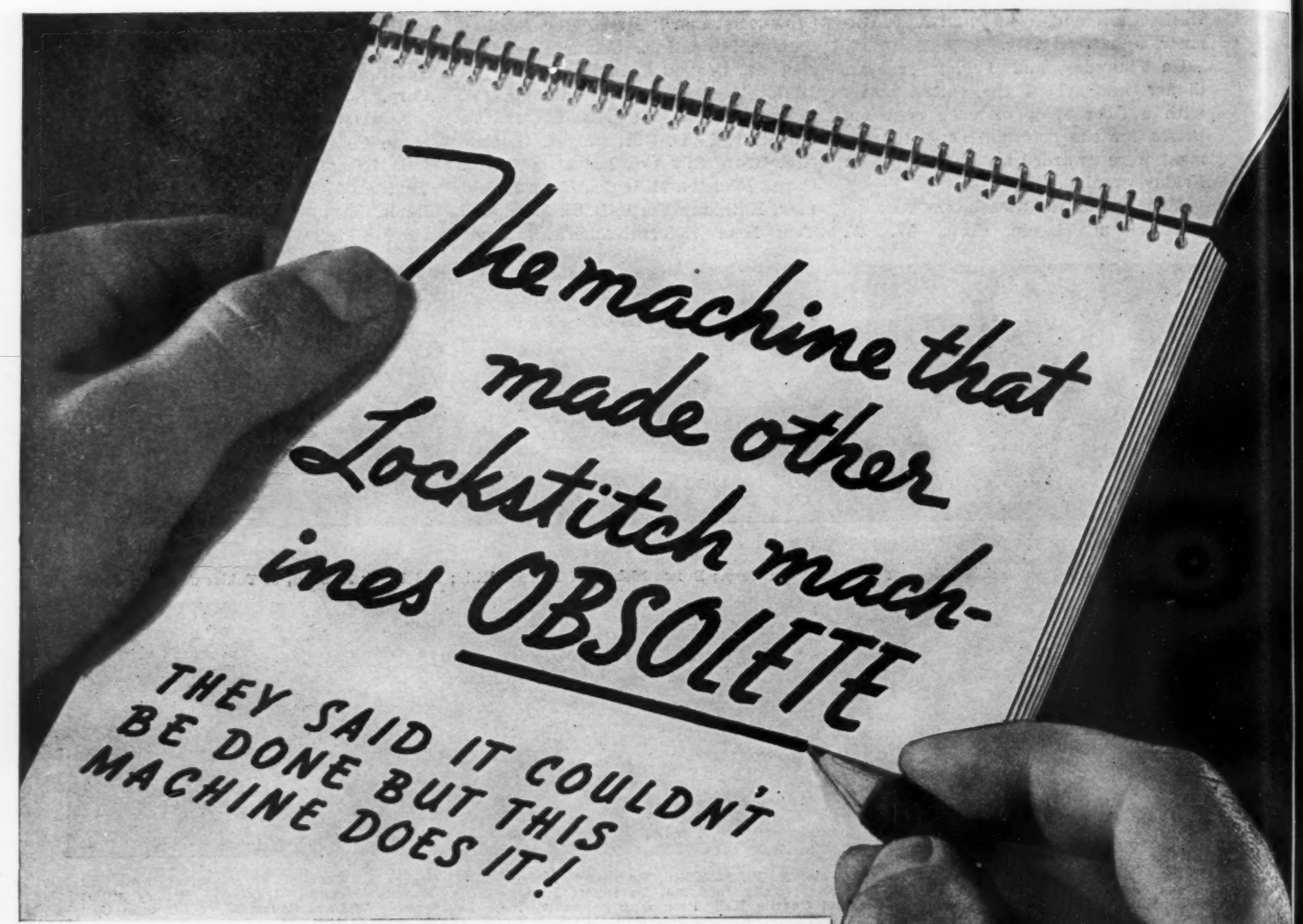
First group: **Dave Blevins**, of Kaumagraph Co; **E. W. McMillin**, Richmond Hosiery Mills; **George R. West Jr.**, Dixie Mercerizing Co.; and **George M. Porges**, Kaumagraph Co. Next: **Tally Johnston**, Davenport Hosiery Mills; **Garrett Johnston**, Graysville Hosiery Mills; **R. W. Roane**, Davenport Hosiery Mills; and **Charlie Hall**, Proctor & Schwartz, Inc. Last group: **Wallace Smith**, M. W. Cannon Co.; **Ernest Jones**, Ingram Spinning Co.; **John Stickney**, William Whitman Co.; and **W. W. Crews**, Avondale Mills



The first foursome: **J. W. Cassell**, Richmond Hosiery Mills; **Hal Asbury**, Margate Hosiery Mills; **W. L. Coggin**, Paramount Textile Machinery Co.; and **Henry Stokes**, Celanese Corp. of America. Next foursome: **Walter Forbes, Jr.**, of Chattanooga; **Reid Murphy**, Signal Knitting Mills; **Joe Fleming**, Bristol Knitting Mills; and **Arch McConnell**, Hampton Co. Threesome at right: **R. P. Hardeman, N. C. Davenport**, and **Roy Mann**, of The Trion Co.



In first group are: **Joe Davenport**, of Davenport Hosiery Mills; **Henry Bryan**, of Bryan Hosiery Mills; **Art Schautz**, of Grove Silk Co.; and **Payton Carter**. In center, **Henry Bryan** faces "**Cotton's**" camera while **Earle Mauldin** snaps another foursome. Twosome at right: **Henry Swift** and **A. Illges, Jr.**, of Swift Spinning Mills, Columbus



FOR years, manufacturers in the needle and cutting-up trades had no choice but to assume that existing single needle plain seamers were open to very little improvement and that one could expect nothing better to work with.

To Union Special engineers, this assumption plainly spelled danger for their many good friends in the needle trades . . . a real danger arising from lack of a way to match increasing overhead with lower unit production cost.

Consequently, Union Special engineers went to work to produce a BETTER Lockstitch machine. Surprisingly enough, this was not very hard to do. In fact, they had virtually complete freedom in choosing from all that had been proven best in latest technological progress. This accounts for the large number of EXCLUSIVE features that are found today in the Union Special Lockstitch machine — features that continue to make it THE MOST MODERN MACHINE OF ITS KIND IN THE FIELD.

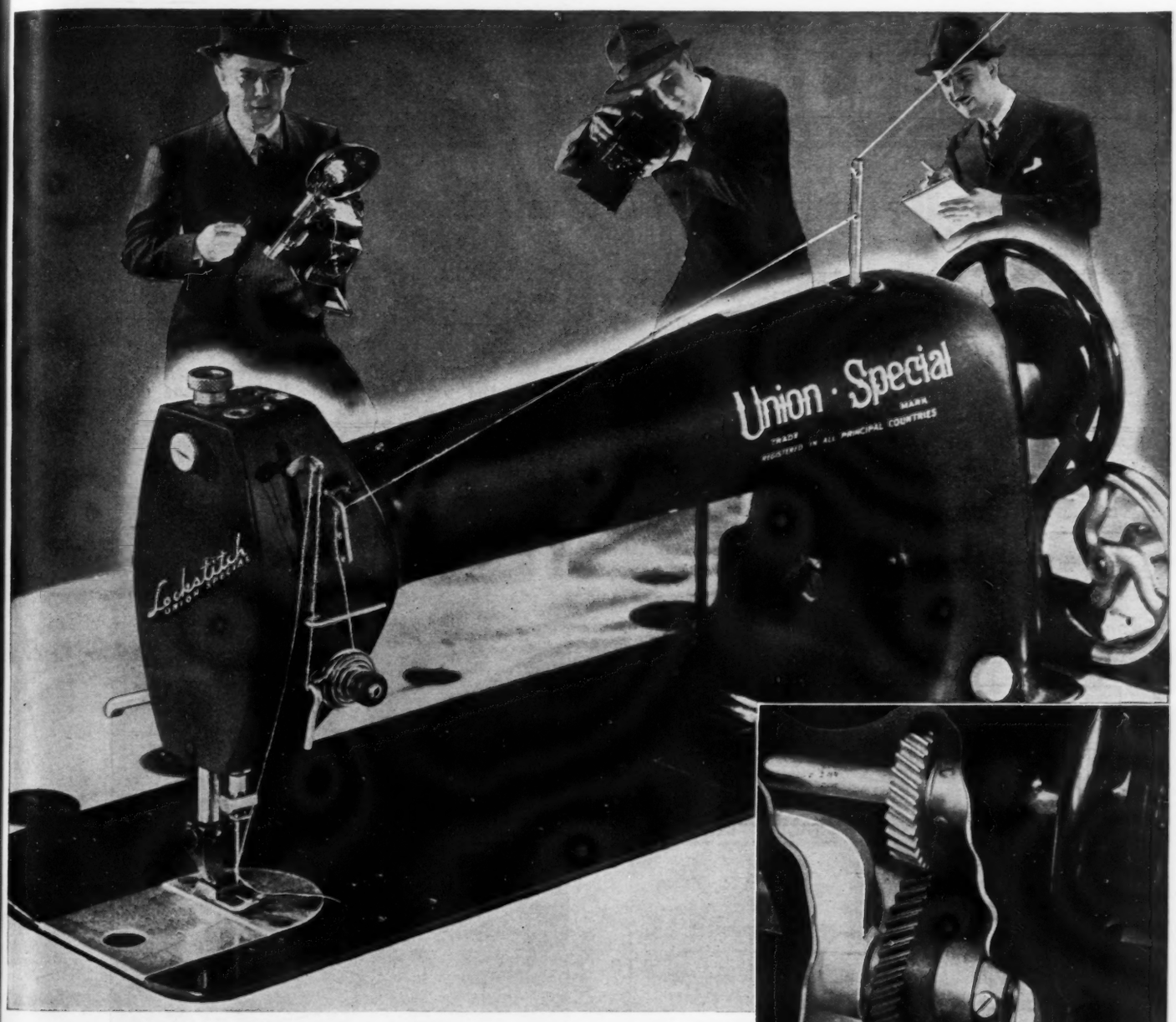
Since its development, the Union Special Lockstitch has built up an unparalleled service record. Its simple construction eliminates complicated mechanisms—it is the closest thing to an all-rotary machine ever built.

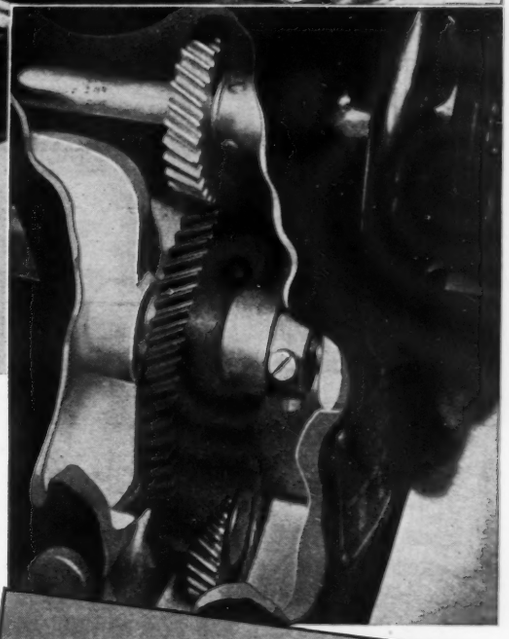
It incorporates the same proven method of positive feeding used in other Union Special Machines for years — it is the only plain seamer built that has this feature. It has an exclusive lubrication system not to be found on any other lockstitch machine.

These Union Special advantages are responsible for big production increases, impressive cost reductions, new records in low maintenance and improved quality of work.

Don't take our word for it—see for yourself! We invite you to make an actual side-by-side competitive test, THEN YOU BE THE JUDGE.

UNION SPECIAL MACHINE COMPANY
438 N. Franklin St. • Chicago, Ill.





Mechanical Features:

1. LEAKPROOF TRANSMISSION. (Illustrated at right.) Note the simplicity of the Union Special method of transmitting rotary movement from upper to lower shaft—no belts, chains, bevel gears, or vertical shafts. This transmission runs in an oil bath and is completely sealed against lint, dirt or leakage—positive, nothing to clog!

2. POSITIVE FEED. For years the special machines produced by Union Special have been famous for their fine feeding mechanism. Now this is available for the first time in a moderately priced Lockstitch machine. No long pitman rods or long rock shafts. Uniform stitching at all speeds.

3. DUAL MAIN SHAFT. Two main shafts carry rotary motion to furthest possible point before conversion to oscillatory or reciprocating movements. Less vibration, faster starting and stopping.

4. SEALED ROTARY HOOK DRIVE. Rotary hook drive taken directly from lower rotary mainshaft by gears —extremely simple. Gears are sealed in oil. These features insures extremely low maintenance costs.

5. ROTARY HOOK AUTOMATICALLY LUBRICATED. The rotary hook race-away is automatically lubricated. This feature permits high operating speeds and increases the life of the hook a great many times.

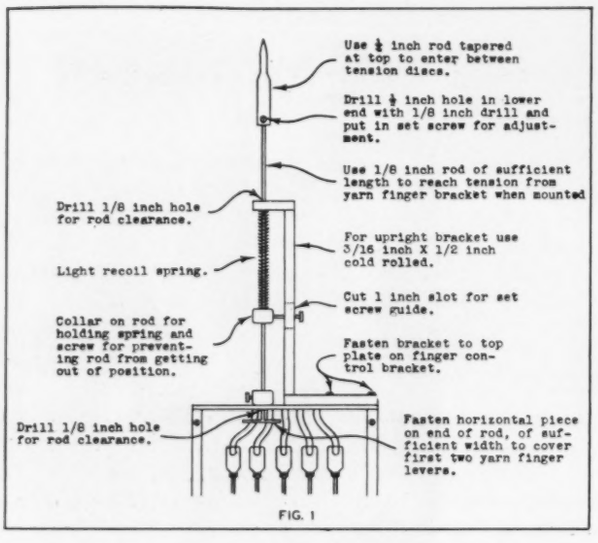
VITAL MECHANISMS *Sealed in* OIL BATH

KNITTING KINKS

Reinforced Horizontal Stripes

AS EVERY one knows who has made patterns on wrap machines using a solid body with yarn changes, when one of these yarns fails to lap in properly, which happens too often, the hose is badly damaged, and if it is a pattern which carries several wraps, quite often the operator has a tedious job of threading up wrap yarns. Partly to avoid this the yarn laps are made very wide, which is objectionable and detracts from the good appearance of the hose. For making patterns on the wrap machines in which one and two course horizontal stripes are used I have found the following method very satisfactory and the results obtained by this method unusual and desirable:

For example, we will use a Banner wrap machine and as body yarn use 250 denier rayon with a one


Use ¼ inch rod tapered at top to enter between tension discs.
Drill ¼ inch hole in lower end with 1/8 inch drill and put in set screw for adjustment.
Use 1/8 inch rod of sufficient length to reach tension from yarn finger bracket when mounted
Drill 1/8 inch hole for rod clearance.
For upright bracket use 3/16 inch X 1/2 inch cold rolled.
Light recoil spring.
Cut 1 inch slot for set screw guide.
Collar on rod for holding spring and screw for preventing rod from getting out of position.
Fasten bracket to top plate on finger control bracket.
Drill 1/8 inch hole for rod clearance.
Fasten horizontal piece on end of rod, of sufficient width to cover first two yarn finger levers.
FIG. 1

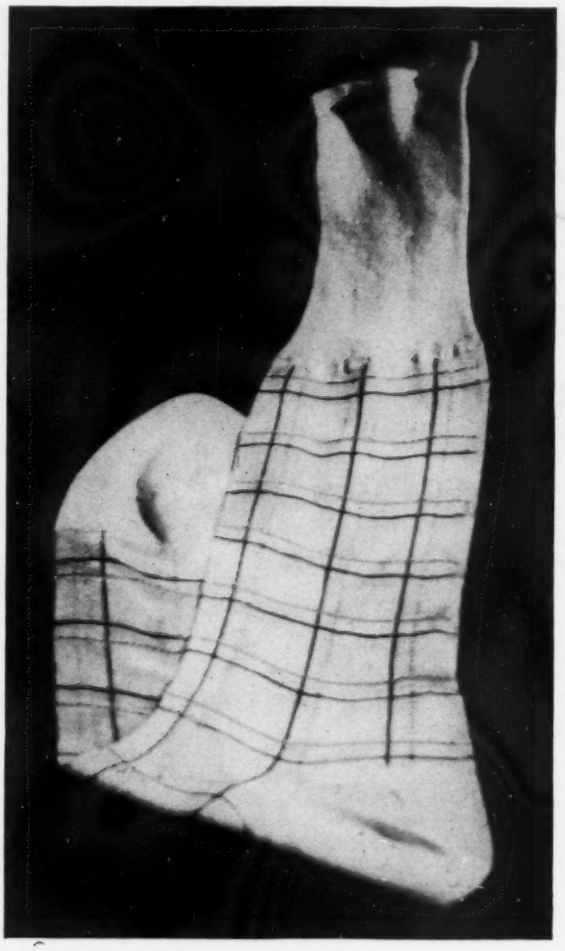
course horizontal pin stripe of two alternating colors of resist Celanese, to come on every fourth course The fabric would run like this; 3 courses of rayon body, one course of resist red, 3 courses of rayon, one course of resist blue, etc.

If a pattern of this type were made with complete yarn changes it would prove very expensive to run and the number of seconds that would be made would be exceedingly high.

But if the pin stripes are put in as re-inforced yarns the amount of bad work would be reduced to a minimum and the result will be just as effective.

The machine would be set-up in this manner; The number one, or back finger will carry the double-sole yarn as usual. The number two finger will carry the heel and toe yarn. The number 3 will carry the 250 denier rayon body yarn. This should be a short finger with only enough lead to plait over the double-sole yarn. The stripe yarns will be in the two front fingers, numbers 4 and 5. These yarns should be about 100 deniers.

Install the tension opening device on the finger lever bracket as per Fig. 1. When this is properly fitted the numbers 4 and 5 finger operating levers



Sock made of solid rayon body with a reinforced horizontal and vertical pattern, obtained by a unique attachment for releasing tension on body yarn when adding in horizontal stripes. The vertical stripes are obtained by regular Banner wrap method. The dotted horizontal effect obtained by using jacks for needle separation and floating in reinforced yarn.

The tension releasing attachment was used in obtaining the effect produced in this sock . . . . . .

will raise the tension opening rod about one-fourth inch when either of those fingers drop in to feed the yarn for the pin stripe.

Now attach a Banner disc tension, catalog number

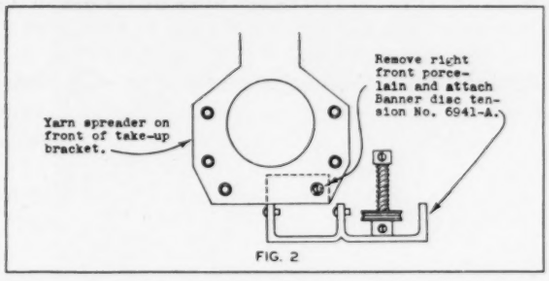


FIG. 2

6941-A) to the yarn spreader that is fastened on the front end of the reel and toe take-up bracket, (see Fig. 2). This tension is placed so the discs will be in a vertical position and directly above the tapered tip on the tension opening rod. The rayon body yarn is threaded through this tension.

Now when either the number 4 or 5 finger drops in the tension is released from the body yarn, giving perfect plaiting coverage. The numbers 4 and 5 fingers should be full length plaiting fingers to increase the lead of the stripe yarns over the body yarns.

This set-up can be applied to the Model ES machine but the tension opening must be controlled from one of the races on the striper drum.

FRANK BOYD

Trouble on Machine Near Window

EDITOR COTTON:

On page 112 of the January 1940 issue of COTTON, your "CONTRIBUTOR NO. 6980" has stated a question in which he is having trouble with mender, and with the lace bars going off on one end of the full-fashioned machine, which is situated with one end of it near some windows. He says that at the slightest temperature change menders and bad stockings are made on at least 11 sections.

We have no suggestion to make as to adjustments on the machinery, and in this particular case feel that the only way of correcting the trouble is to eliminate the changes in temperature. This is probably an engineering difficulty.

CONTRIBUTOR NO. 7026

◆

EDITOR COTTON:

With reference to the inquiry of "CONTRIBUTOR NO. 6980", who is having trouble with 11 sections on a full-fashioned machine located near windows, I would suggest that this man insulate the end of the building. This can be done by putting double sashes in the windows and rock wool bats inside the wall; or they could close up the windows and insulate the whole end of the mill.

CONTRIBUTOR NO. 7027

EDITOR COTTON:

This is in answer to the question of "CONTRIBUTOR NO. 6980" on page 112 of the January issue of COTTON. Since this particular machine is giving trouble only, and in just this particular spot in the mill and no where else in the stocking other than his lace section, we don't think it could be fully controlled by air conditioning, as we believe it is a machine or building defect.

Our opinion is that if he will check the level of the machine so as to see if any bearings can spring out of line or bind while these motions are being made he might find a solution to some of the trouble.

Our experience was gained after long observation on one particular machine, that the floor had a springy place under one end of the machine giving trouble here, and the weak place was not over two feet from a roof support or column that showed no signs of weakness.

After releveling the machine our trouble on the machine passed away after readjustment and when certain bearings were taken apart it showed signs of out of line wear.

We have no record of half-inch cold roll expanding that far. We don't think temperature change could be confined to 11 sections.

CONTRIBUTOR NO. 7028

Sizing Full-Fashioned

EDITOR COTTON:

On page 121 of the September 1939 issue of COTTON, "CONTRIBUTOR NO. 6952" has asked a question with reference to sizing full-fashioned hosiery.

In regards to the sizing of hosiery there are various opinions as to what constitutes the best method and all are more or less successful in obtaining the proper results. The ultimate end we strive for is correct length and good match at the foot junction regardless of how that end is attained, whether it be by the use of a glass or a ruler as a medium of counting the courses per inch. For general length a glass may suffice as long as the hose are the right length on the boarding forms, but for individual length we do not have much faith in its possibilities. The reason for this is the fact that when counting courses with a glass the stocking is lying inert and though one section may be running long or short it is difficult to distinguish any variation. Incidentally, this goes for footers as well as leggers.

To our way of thinking, it is much more advisable to mark the needles with blue chalk which has been soaked in water so as to create a thin line on the fabric. Every head should be marked, the desired number of courses run and the result measured with a steel ruler. Even with this procedure the man responsible for quality must have a keen sense of judgment for although a section apparently measures up to standard it is quite possible for it to be running tight or loose, which must be determined by its appearance in length when compared to the rest of the hose on the machine. After the set is pressed off the

machine about all a yard-stick is good for is to get a general idea of the average length. It is also a good principal to measure the welt and sub-welt separately from the main leg, adding both lengths together for the final diagnosis. The reason for this is that we must match the leg and not the welt. It is quite possible the welt yarn may be running long or short and when the stocking is measured for length it confuses the issue at hand.

On the foot sizing the best system is to use just plain common sense. By that we mean that though the legs may contain fifty courses per inch by the ruler the identical measurement on the footer might result in imperfect match because the draw-off tension is much greater. When changing style on a footer it is perfectly legitimate to mark the work and measure for the desired number of courses but after that has been done one must still rely on the eyes and test reports as to the condition of the match. We have observed leggers operating at fifty-three courses per inch and yet to obtain a good match the same number of courses on the footer measured one and one-eighth inches. Irrespective of the ruler reading there was no earthly reason to tamper with the size of the stitch as long as the foot junctions and length were all that could be desired. This does not always hold true but the fact remains that it can happen and must be dealt with accordingly.

Air conditioned or not, the problem remains the same. The only difference is that it is more difficult to operate a plant that is not air conditioned because of the high twist yarn in general use today. It is only natural that the more turns per inch in yarn, the more it will resist water penetration. Therefore, air and humidification control is a boon for it keeps the silk in the proper condition for good knitting results.

Unevenness in length is a pest that plagues every mill and there is no cure-all for it. Silk itself does not run true to form and coupled with a difference in winding tension, be it ever so slight, there is bound to be variations in length, sometimes to the extreme that certain stockings must be graded as irregulars. It has been our experience that the continual adjustment of slurcocks to overcome differences in length is a fallacy unless the tolerance in the sinkers is so great that it is at once apparent that is the root of the trouble. It is much more advisable to first change the silk, such as removing the cones from a section that appears slightly tight and interchanging them with cones from a section that is loose. After these cones have run for two sets and the unevenness persists the only remedy is a machine adjustment. If, in the plant of "CONTRIBUTOR NO. 6952" felt pads are in use the hazard of uneven lengths is twofold. There are systems of running yarn in use today that assure a maximum of even tension which after all is the first step in eliminating the bugaboo of uneven lengths.

In closing, we can not stress too strongly the importance of using plain good judgment—regardless of what a ruler or glass might say.

CONTRIBUTOR NO. 6995

Rust on Full-Fashioned

EDITOR COTTON:

Your "CONTRIBUTOR NO. 6954" seems to be troubled with the problem of rust on full-fashioned machines, according to his question on page 177 of the October issue of COTTON.

Rust accumulation on a machine is very vexing indeed but in our experience (and we have tried everything) there is nothing that will keep down rust deposits except a lot of hard work and plenty of oil. Spraying the machine with oil once a week will help but it still takes that well known "elbow grease" to keep everything under fairly good control.

Concerning rust deposits running from the oscillating bearings, we have used a certain oil very successfully in the past and it is in use in quite a few mills not only for that purpose but for all the bearings. The one great advantage it has is the fact that it mixes with water and still lubricates.

CONTRIBUTOR NO. 7000

EDITOR COTTON:

I note that "CONTRIBUTOR NO. 6954" is troubled with rust accumulating on the full-fashioned machines and would like some of your readers tell him what they are doing to prevent this. His question was on page 177 of the October 1939 issue.

Like this contributor, we also had this trouble but now have reduced rust accumulations and also time in cleaning by the use of a grease which we have tested.

We clean our machine each week and twice a year our machines are given a thorough cleaning. All rods and shafts are thoroughly cleaned and all rust spots removed with emery cloth. We then coat all such shafts with a thin coating of the grease. We have found that this particular grease is non-corrosive and it does not dry up or harden. As most of the rust is caused by the spray as the thread passes through the water troughs the only way to prevent rust from accumulating is to coat such parts that are not movable and not oiled constantly with a grease so that the water cannot penetrate the metal.

Our weekly cleaning consists of the parts that are oiled such as cams, friction rods, snappers, rods holding narrowing fingers and sinker heads. All our cam shafts, roller shafts, narrowings shafts, friction shaft, snapper shafts, and catch bars are greased and are only cleaned when they become unsightly. However, through greasing these parts the time of cleaning has been shortened a great deal, as it is much easier to remove the grease than to try to remove the rust.

The contributor also states that rust deposits run from the oscillating bearings. While we have never had this trouble, I would suggest that he make a test to see if the oil used is at fault. Possibly the oil is too thin and does not lubricate these parts properly. Makers of knitting machines have all made tests on what kind of oils to use and we have found that by following their instructions on how to oil and what grade of oil to use, that good results are always obtained.

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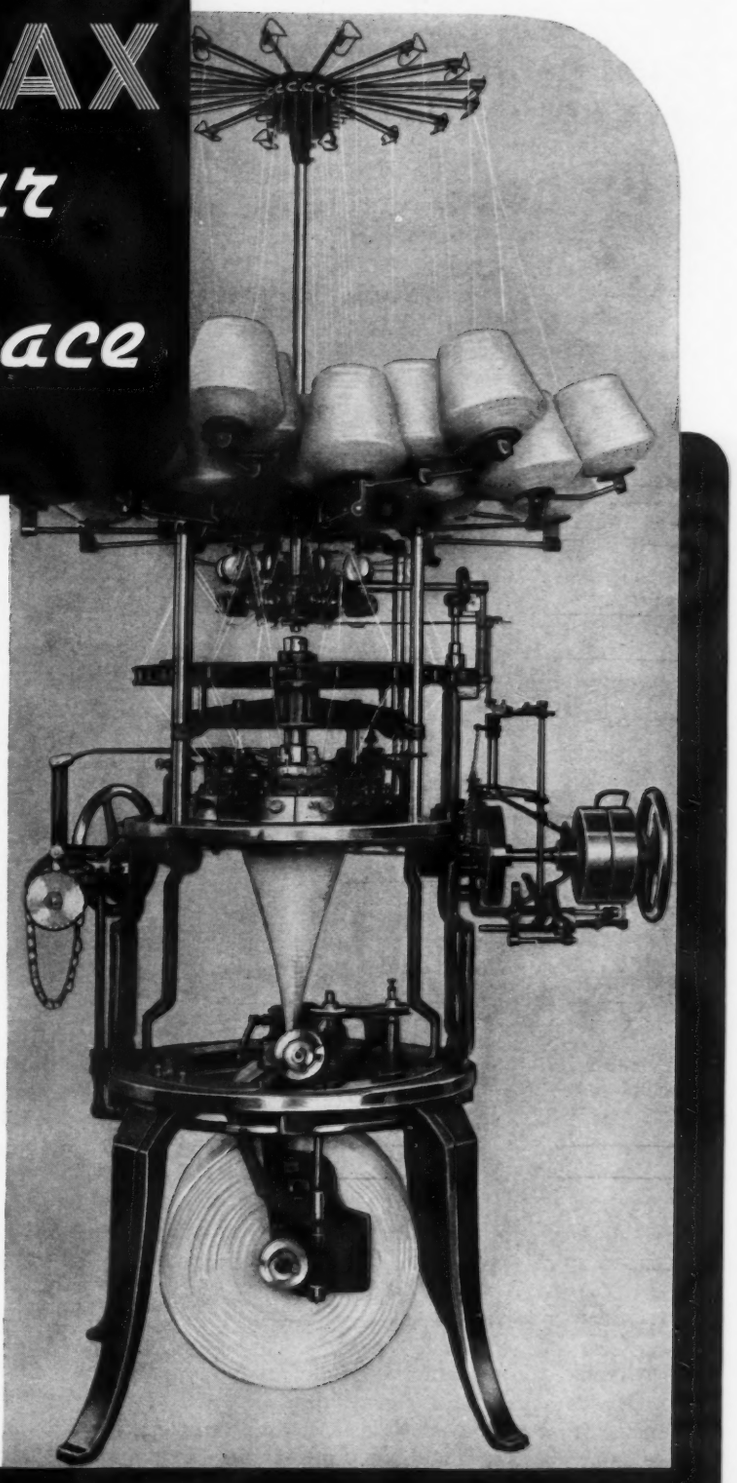

THAT'S what you're really paying as long as you continue to use 8-feed machines. Why?—because by replacing them with this modern 16-feed, in exactly the same floor space, you can double production. And besides, you can increase your patterns, make a better, more uniform product, and have absolutely trouble-free operation.

Write for literature describing this machine's many exclusive features and advantages.

WILDMAN
THE WORLD'S STANDARD

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NORRISTOWN, PA.

I am sure if the contributor will try greasing the parts exposed to rust that he will find that rust accumulations will be reduced and the machine will have a better appearance.

CONTRIBUTOR No. 7001

Banner Question

EDITOR COTTON:

Referring to Banner machines, what would cause the dropper to bring down more needles or not all the needles that had been raised by the up-picks, although the up-picks and the dropper are adjusted and functioning properly

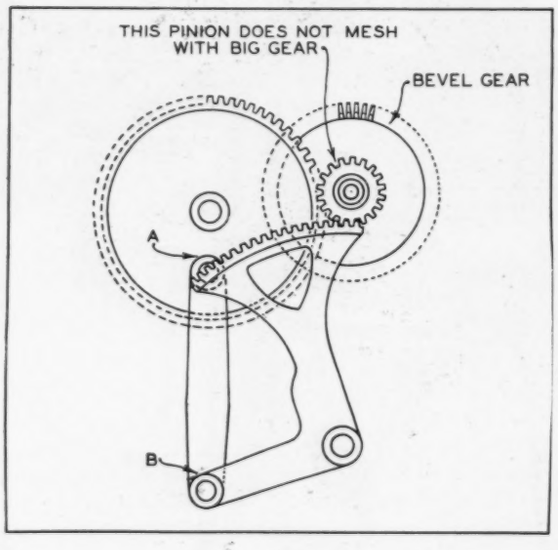
CONTRIBUTOR No. 7057

Banner Trouble in Clogged Oil Hole

EDITOR COTTON:

Some time ago a very unusual problem slipped up on me and I am passing it on to the readers of COTTON.

The machine was a Banner wrap stitch, and the trouble was in the knitting of the heel and toe. The stitches appeared tighter along the gore line which gave the heel and toe a distorted texture. Quite frequently the yarn would break and cause a cut-out.



Furthermore, the machine lagged in production. Even when it was kept on the tight pulley as much as the other machines on the same class of work and running at the same speed it would not produce quite as much.

My first impression was I was running too much tension on the heel and toe yarn which caused it to break so much. I loosened up on this. It stopped the breaking of the yarn, but it introduced another evil; it made the gores too open and sleazy.

After I had worried and "sweat blood" trying to locate the cause, I noticed there was considerable knocking in the driving gears, particularly the quadrant gear and connections during the reciprocal knitting.

Imagine my feeling of guilt and stupidity when I noticed the pivots on the connecting arm (shown at A and B in the accompanying sketch) were worn from lack of lubrication. I had been giving the oil holes here their usual dose of oil, but it never occurred to me that the holes might be stopped up, and the lubricant was not reaching the spot.

It developed that grit had settled in the oil holes and stopped the flow of oil to the bearings, and the consequent wear had made too much play at the pivots of the quadrant link. This was responsible for the knocking, caused a certain amount of lost motion, too much dwell at the end of each stroke of the quadrant gear, and an unnatural motion to the knitting cylinder. When the connecting arm was fixed the trouble disappeared.

To avoid a recurrence of this, I have attached a sharp pointed prong to the spout of my oil can. At every oil hole I gouge out the dirt with this prong before giving the usual squirt.

Undoubtedly it was the lost motion and the abnormal dwell during the reciprocal knitting that caused the lost production, but what caused the yarn to break and the distorted stitches, I am not so sure. Perhaps the unnatural motion of the needles transmitted through the defective quadrant gear caused them to take the yarn in such a way as to produce an uneven tension, and this in turn caused the uneven stitches; sometimes enough to break the yarn. I would be interested in other opinions of this.

CONTRIBUTOR No. 7063

Placing Needles in Banner Cylinder

EDITOR COTTON:

On page 166 of the April 1940 issue of COTTON, "CONTRIBUTOR No. 7053" has asked for a method of determining where the long and short butt needles should be placed in the cylinder when changing the cylinder on Banner machines.

Two Methods

There are two methods for determining where the long and short butt needles are to be placed. The first method is to put the machine in the heel and make one reciprocation before removing the cylinder from the machine and mark on the cam bed at the point where the long and short needles meet. The new cylinder can then be needled according to the position of the needles that were in the cylinder removed.

Another method is to remove the old cylinder from the machine and put both cylinders on a work bench with the bottom of the cylinders facing the mechanic. Set the screw holes for both cylinders so that holes are in the same position. Insert needles in empty cylinder as they are in the cylinder that was filled.

CONTRIBUTOR No. 7070

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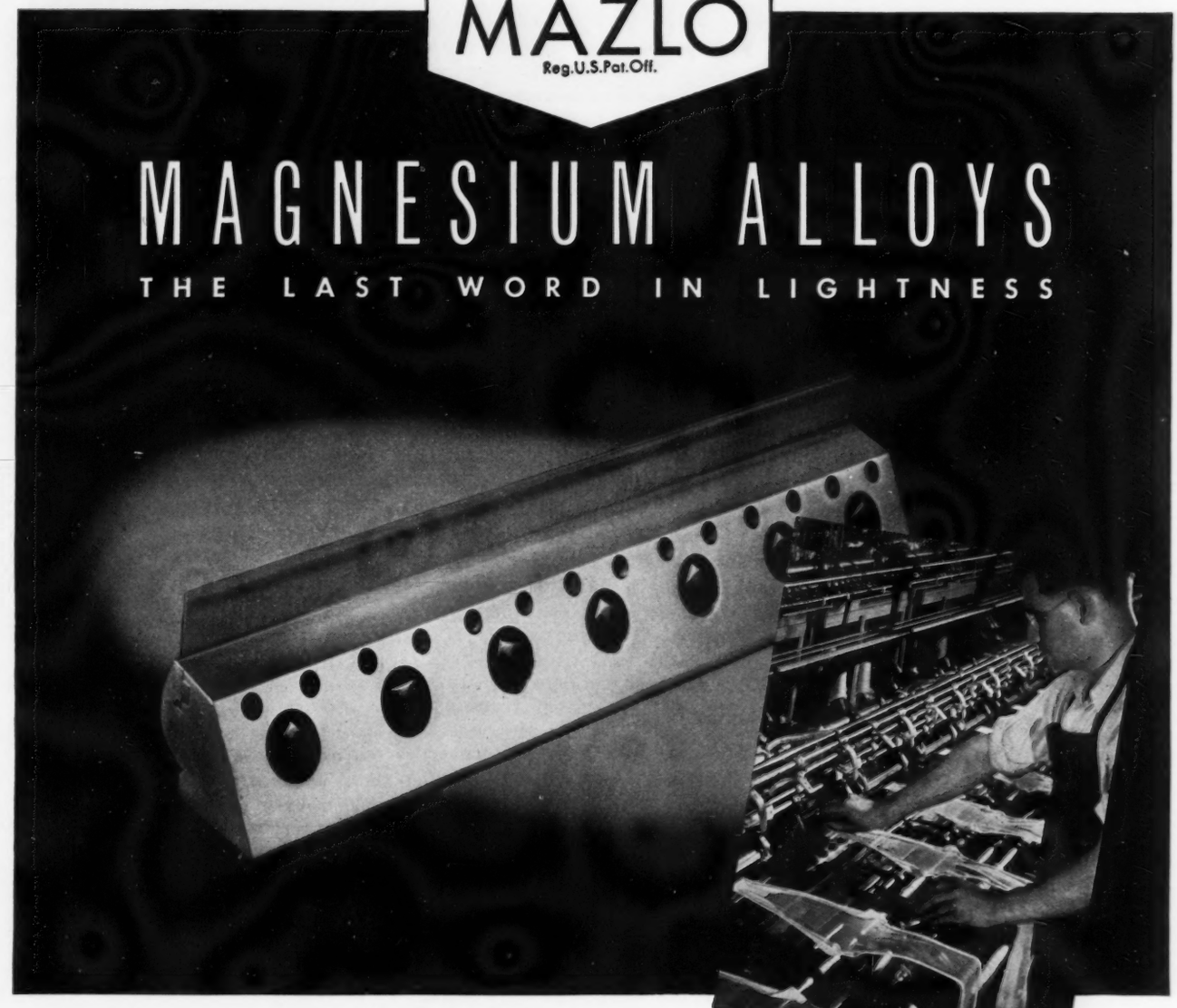

Full-fashioned hosiery knitting machine of The Textile Machine Works, Reading, Pa.

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substantially increase knitting speeds

Needle bars are among the oldest applications of MAZLO Magnesium Alloys in the textile industry. Light weight is very important here, for needle bars have to reciprocate at high speed in a complicated figure 8 motion. Making them of Magnesium permitted knitting speeds to be substantially increased.

Two MAZLO extruded shapes are used in this needle bar assembly; the bar and the clamp. Both have the advantage of lightness, for Magnesium weighs only one-fourth as much as steel. The alloy used for the clamp has a high yield point, enabling it to maintain the necessary, constant, tight grip on the needles.

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TRENDS AND HIGHLIGHTS OF THE KNIT GOODS MARKETS

Weakness In Full-Fashioned Hosiery Prices And Introduction of Nylon Retard Flow of Regular Business—Anklets One of Hosiery Bright Spots With Terry Cloth Still Active—Underwear Plants Less Active—Spring Retail Business Disappoints

Philadelphia, May 16, 1940

A RELATIVELY small amount of nylon full-fashioned women's hosiery went on sale May 15 and the next public offering will be by several branded firms June 1 and then on June 15, indicating there will be no continuity of shipments of branded nylon stockings for some time to come. Yet hosiery jobbers and retails state that this new consumer development has been acting as a powerful factor in the business and retarding the placing of essential silk hosiery business until the public reaction to the new stockings is had. In the meantime there has been a fair volume in anklets, men's slack socks, athletic socks and bundle goods but with men's regular length half-hose, women's seamless, children's and infants' lines lagging behind the same 1939 months.

Full-Fashioned

Shipments of full-fashioned women's hosiery have been recently averaging 20 per cent under the same period a year previous and at the present time there are no strong signs that a change for the better is here although jobbers in the East reported a slightly better demand as the nice shopping weather came. Retailers say the poor retail interest in these lines has come through fear of effects of nylon and more especially because of the long spell of unfavorable shopping weather. There has been an advance in the price of raw silk this month but compared with the raw market hosiery prices are low and margins for manufacturers are not enough by a wide margin. The full-fashioned end of the business, leaders have asserted, is in a deplorable condition and mills in the local area have been working at an average of half time or slightly under. The Gotham Silk Hosiery Co., and Julius Kayser & Co., have made no additional revision of their $6.00 minimum established a month ago and this is the low on branded goods. Early in May, Berkshire reduced prices about 25 cents per dozen with its lowest number at $6.15 compared with $6.35 in its previous list. A factor in the branded end was that other firms were holding to their $6.60 minimum so that there was up to last week a 60 cent differential between them and the $6.00 group when most came down. There has been considerable switching of the small volume of business as larger supplies of nylon were promised if an order for silk numbers was placed at the same time. The advance of about 40 cents in silk when fighting abroad became sharper may force these low prices to change before many weeks pass but at present no excitement prevails aside from the nylon introduction.

Half-Hose

While new business in men's regular length half-hose has not quite been up to volume this time a year ago that in men's slacks has been somewhat ahead while terry cloth constructions have been selling very actively, some jobbers reporting that they have been unable to keep these in stock. Prices at wholesale have been soft but not greatly changed although the wholesale and primary markets have aided in retail promotions of half-hose at very cheap prices so that there cannot be much of a margin in such business. But retail sales in the large eastern cities have moved large amounts, such prices as five pairs for a dollar being popular. During the first three months this year shipments of the short or slack socks were slightly ahead of the first 1939 quarter and jobbers report warm weather is bringing about a spurt in these of fair proportions but that regular length half-hose is quiet. Shipments of rayon half-hose have been considerably smaller this year to date than last although the silk lines have also suffered. Lisle lines have been holding up well. There is a better demand for athletic socks and each year finds a larger amount of these moving into consumer hands although compared with total socks sold the amount is small.

Seamless

Women's silk seamless numbers taking their cue from the dullness in silk full-fashioned lines, have been less active this year to date than last but to offset this there has been a slightly larger volume of business in women's seamless rayon and cotton numbers. Prices of silk lines have been soft as have the full-fashioned lists and this has been a factor. Shipments of all types of women's seamless have been smaller this year than over the same period in 1939. Anklet production has been the brightest spot in the seamless end of the business and for the first quarter shipments of these were 1,500,000 dozen pairs larger than over the same period a year ago. Terry cloth anklets have been good numbers and jobbers report that they have been unable to get large enough deliveries of these to maintain stocks. Cheap anklets to retail from 10 to 25 cents per pair have been good items with retailers. Children's and infants' numbers in seamless have been less active than a year previous so far as the longer length items are concerned.

Underwear

The cold rainy spring has had a retarding influence on spring underwear but this may also be a factor that will give manufacturers and wholesalers a much longer and later season than a year ago. While knitters have been active on old business during the first quarter of 1940 the retail situation is catching up with them and during the last couple of weeks knitters in Pennsylvania have been curtailing operations as they run out of old orders and fail to book new in volume. Some manufacturers have just announced slight reductions on spring and summer underwear which had the effect of eliminating advances that were placed in effect last February and will permit the popular retail brackets again that the previous list had knocked out. The lower cotton yarn prices that have developed since early this year have been

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"Being a model certainly teaches you a lot about clothes. You learn how to buy them, what to look for. Good hosiery—not just stylish hosiery—is very important to me in my business. I have to keep up a smart, neat appearance everywhere I go—or I just don't get modeling jobs. So I buy hose that are not only sheer but strong and highly elastic, too. For even the sheerest stockings won't look right if they don't fit trimly and snugly!"

More and more women are buying hose for the right balance of good qualities—sheerness and sleekness with strength and elasticity. Torrington Needles, the finely finished, accurately dimensioned needles, will help you obtain this correct balance. They are made by special machine methods that assure the highest degree of uniformity. They are the first choice in mills that take pride in giving their customers extra value in fine knitting.

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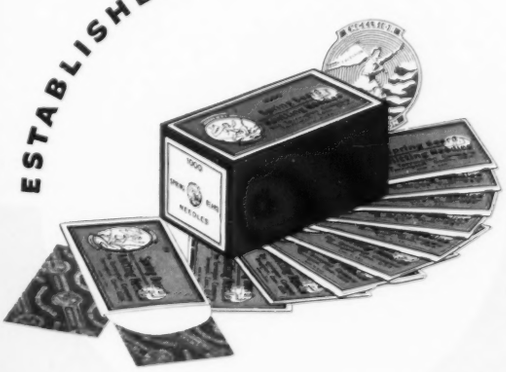

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an important factor in bringing about these price changes but the lack of new goods orders has been the most important. Due to the late season, lightweights are expected to be active until August this year.

Underwear Hearing On Learner Question

The underwear industry presented its case in regard to learners under the Federal Wage and Hour Act at a special hearing held in Washington. This is one of the most important questions to the industry under the operation of the act. Former rulings, notably the one which meant that no learners could be hired in the industry if experienced help could be shown available, met with strong and outspoken resistance from manufacturers. The special learner committee for the underwear industry was headed by L. U. Lynt of Little Falls Manufacturing Co., and the other members were Ralph M. Jones of Utica Knitting Co.; T. J. Covington of West Knitting Corp.; Benjamin Gibbs of Gibbs Underwear Co.; and John J. Miller of H. L. Miller & Sons.

Testimony of T. S. Whitsel of the Union Special Machine Co. was regarded as especially effective. He testified that it took from three to six months for a beginner to learn on one of the basic types of sewing machines and further that it took approximately the same time for an experienced girl on one basic type machine to learn another. Mr. Whitsel said further that it took approximately five to six weeks for a girl experienced on one type machine to become productive on another type within the same basic range. The final case for the industry was summed up in the brief filed by President Roy Cheney of the Underwear Institute. The rules on learners recommended in his brief were that they should set up a blanket permit to employ learners up to 5 per cent of the total payroll and without the necessity of securing individual authority. Mills with less than 100 employees he said should be permitted to have at least five learners. Next it was suggested that learners should be employed and paid at the piece work rate which is in vogue in the mill or the learner minimum whichever is higher.

This would guarantee that the learner be paid exactly what she earns even if above the guarantee. Thirdly, he suggested the rules should provide that the learner be guaranteed a minimum wage amounting to two-thirds of the minimum otherwise provided for by the law even though the learner earns less. Fourth, the regulation should provide that a learner be classified as such for a period of 480 working hours but these hours must be worked and completed within a maximum of 20 consecutive weeks. Fifth, the regulations should provide also that a learner shall be classified as such if she has not been employed in the same operation or duty in the industry within a year previous.

FORECAST

(Opinion submitted by COTTON's market correspondent)

Philadelphia, May 16, 1940

Total warfare in Europe with history-making events in the offing has affected business in the United States more sharply than economists had thought possible. Within the last few days stocks, bonds and commodities have dropped sharply and at the time of writing confidence in business has suffered a sharp setback. With conditions of world importance outside this country developing, forecasts as to conditions here over the coming weeks are more difficult than any time in the past.

The most that can be said at this time is that fears of business that an early peace will come, one that will not be in conformance with sympathies of this country, have been over-emphasized in the financial and commodities markets. Business conditions in the United States are on a sound basis with slow improvement over recent lower rates indicated.

What would happen to this trend if Germany wins the war quickly cannot be foreseen but it certainly would mean major changes in the economy of this country. The first sign in that direction is the immense rearmament program President Roosevelt suggested. If the United States is to prepare actively on land, sea and in the air our plants are going to be busy and in addition, there will be a large demand for American merchandise in South America, if the war continues or not.

Inventories in the United States expanding up to March reached a level higher than some desired but the inventory position is being corrected and there are signs that almost irrespective of happenings abroad there will be no duplication of splurge of buying ahead of last September. American business has learned lessons and it seems to take more than a world war to shake them out of it.

In the textile industry the spring season for many lines has been a poor one but indications are the fall season if allowed to develop free from outside factors will be a good one. Cotton over the last week especially has been weak, reflecting cutting off of foreign markets by war and in addition another good sized crop is indicated. No higher level for cotton can be predicted and some further easing may come over the next few weeks. Wool if the war continues should see higher prices on all except the finest wools; coarse wools will go higher. Silk unless affected by new war developments should stay between $2.50 and $3.00. Rayon may harden later but not now. It is in the best position of any textile fiber and higher raw prices may cause producers to raise slightly.

Northern Hosiery Mills Install More Machinery

Northern mills have resumed new machine purchases on a scale more nearly proportionate to their importance in the industry; shipments of 51-gauge machines reached 30 per cent of total shipments during 1939 as compared to 11 per cent in 1938; more than 800 old machines were sold in 1939 and have been transferred from established units of large size to new units operating on an average less than 10 machines each and there are now more than 200 of such mills operating a combined total of about 1500 machines. These conclusions were emphasized in its twelfth annual statistical survey of the full-fashioned knitting industry covering 1939 by the Textile Machine Works of Reading, Pa. It further stated as significant that only 112 machines were scrapped last year. Carrying its data in one instance up to March 1940 the company places the number of full-fashioned knitting mills in operation in the United States at 475. They were running in 28 states, the latest addition being in West Virginia where the first mill was installed last year. In 1939 there were 91 new mills started, 85 of which opened with old machinery. The northern territory liquidated 20 mills involving about 400 machines, 50 per cent of which were in the Philadelphia district.

The South accounted for 58 per cent of the new mills, the North 42 per cent and the West none. Speaking of old equipment, the firm notes that 41 old mills installed 190 while 85 of the new mills installed 600 old machines. Philadelphia alone lost 200, the southern states gained 150, the state of Pennsylvania gained 25, New England and New Jersey lost about 40 and the West lost 5. Commenting on its own business in machines the report says that production of 26-section leggers and footers combined amounted to 77.4 per cent of last year's total. Where leggers alone were concerned 96.3 per cent were of 26-sections while footers of 30-sections accounted for 85.8 per cent of the output. The South accounted for 48 per cent of all its shipments, Pennsylvania 31 per cent, the West 9 per cent, New England, New York and New Jersey 3 per cent, Canada 2 per cent and exports 7 per cent.

Hosiery Conference Held On Learner Status

Representatives of employers and unions in the hosiery industry discussed at a public hearing in Washington, April 30, what changes if any should be made in provisions under the wage-hour law affecting employment of learners in that industry. Under the prevailing wage order for the hosiery industry, a minimum wage of 32½

cents an hour is fixed for the manufacture of seamless hosiery and 40 cents for full-fashioned. The order also provides a schedule of learner rates for various skilled operations at less than these minima upon the issuance of proper certificates. Under the wage order these certificates expire September 18, 1940. The April 30 hearing sought to reconsider the terms and conditions of the issuance of such certificates and to determine whether there is the necessity for further issuance of learners' certificates in this industry after that date.

In addition to representatives of the Wage and Hour Division, those who attended were: William Felstner, Full-Fashioned Hosiery Manufacturers Association; Alfred Hoffman, American Federation of Hosiery Workers; Charles Lehmuth, Full-Fashioned Hosiery Manufacturers of America, Inc.; Rueben C. Ball, National Association of Hosiery Manufacturers and Taylor R. Durham, Southern Hosiery Manufacturers Association. Spokesmen for the manufacturers and labor both agreed that it was necessary to continue for a second year the issuance of learners' certificates. They also agreed that the overwhelming majority of hosiery manufacturers have not attempted to abuse the learners certificate provision of the wage order or to violate that order's minimum wage requirements for other workers.

Both sides said a small fringe of chiselers, small scattered groups of relatively unimportant manufacturers, had attempted to employ as learners persons who were actually skilled workers and who therefore should be paid at least the full minimum wage required by the wage order. It was proposed that efforts be made to tighten the restrictions regarding issuance of learners' certificates to this minority and thus protect skilled workers as well as the manufacturers who are complying with the fair labor standards act and with the wage order for the hosiery industry.

Simple Rules Urged By Outerwear Assn.

The necessity of keeping the administration of the wage and hour law simple was stressed by Sidney S. Korenik, secretary of the National Knitted Outerwear Assn. at a hearing in Washington, May 2, in a brief submitted on behalf of the association in connection with the employment of learners. Revision in the current provisions advocated by Mr. Korenik were: The learner provision should apply to all types of labor employed by the industry and not exempt certain so-called unskilled workers; the current limitation in the employment of learners to 5 per cent of the total workers in the plant should be removed and employers should be allowed one learner for every 20 employees or fraction thereof; that no condition be attached to the granting of a certificate making it effective only upon the lack of available skilled help. This was advocated first as a question of policy since, it was argued, the question of learners does not come up when experienced labor is available. "We believe," said Mr. Korenik, "that the business principle that employers will not engage learners where skilled help is available will operate naturally to deter any abuse." It was stated that the question of availability of skilled labor would create administrative difficulties by continually raising the question of what "available" means.

An Eye on the Knitting Mills

P. H. Hanes Knitting Company's new seven-story building in Winston-Salem, N. C., is approximately 95 per cent complete, J. E. Sirrine & Company, consulting and designing engineers of Greenville, S. C., state. They awarded the contract for the power and lighting wiring to the All State Electric Company of Winston-Salem, the sprinkler system to Grinnell Co., Charlotte, N. C., and the contract for the high-speed, self-levelling freight elevator to Otis Elevator Co. also of Charlotte. The building for which C. M. Guest & Sons, Anderson, S. C., were awarded the contract, rests on Raymond's concrete piles, has steel frame, brick walls, steel sash, 20-year tar and gravel roofing, wooden floors, and covered platform along the railroad side, as well as the usual elevator, stair towers, etc.

Five new hosiery plants have been built in North Carolina during 1940, according to J. T. Anderson, industrial engineer of the Department of Conservation and Development. These are the Black Hosiery Mills, Midland; Vance Hosiery Mills, Inc., Henderson; Surratt Brothers, Lexington; McCauley Hosiery Mills, Inc., Statesville; and Cooksville Hosiery Mill, Vale. Many other mills have made additions to their plants.

Williamson Hosiery Mills, Englewood, Tenn., a new concern, have started operations with 14 machines for the manufacture of combed or mercerized anklets for women and children. A. J. Williamson is owner.

A hosiery mill has been started at Hickory, N. C., on the second floor of the building which formerly housed the G. & H. Hosiery Mill. Another plant is located northwest of Hickory near the municipal airport.

The old tannery mill at Dexter, Me., has been purchased by Charles H. Crawford and it is understood that a knitting mill entitled Dexter Knitting Mills, Inc., will be operated. Capital stock is $10,000.

A hosiery mill will be established at Dandridge, Tenn., an agricultural section near Knoxville. The mill will employ 100 persons at the beginning. The building will be 120 x 60 feet.

The Cramer Hosiery Company, Nazareth, Pa., has sold to Sol Raines and Johanna Reineking, acting for the Argyle Silk Underwear Company, their properties at Pen Argyl.

It is reported that Terra Alta (W. Va.) Hosiery Mills have opened under the management of George and Peter Farrell. Full-fashioned hosiery is the product.

Denhart Hosiery Mills, Paterson, N. J., have been granted a charter with 500 shares of preferred stock at $100 and 1,000 shares of common stock of no par value.

Davenport Hosiery Mills, Chattanooga, Tenn., will air condition the entire 4-story building at a cost of $53,500. The firm recently installed new fluorescent lamps in the mill.

Pickwick Hosiery Mills, Inc., Corinth, Miss., is a new hosiery mill that will manufacture full-fashioned hosiery. L. E. Watson is president.

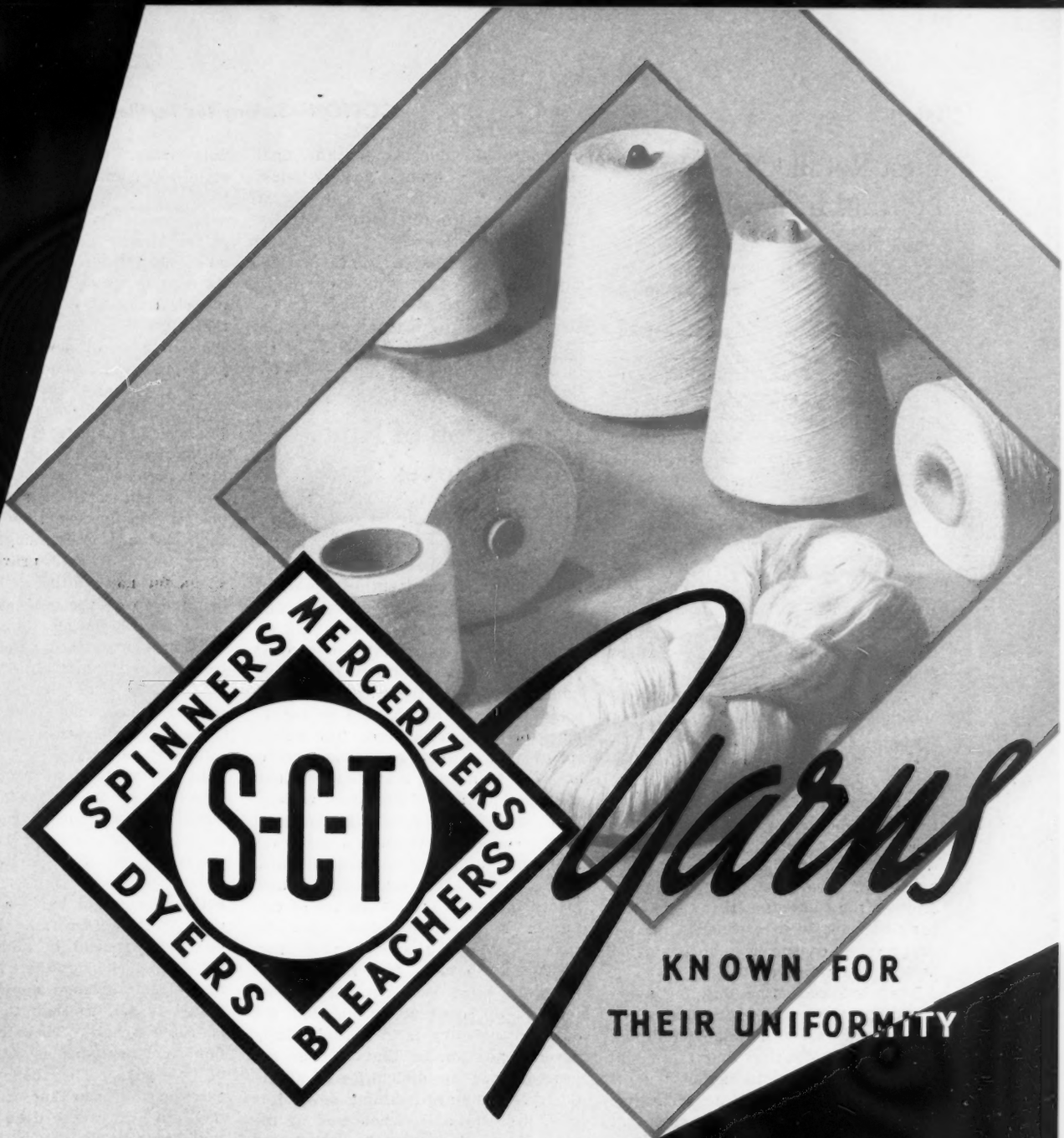
Holler Hosiery Mills, Hickory, N. C., is reported to be installing 10 new automatic Scott & Williams knitting machines.

It is understood that a knitting mill may be located at Waynesboro, Miss. Local citizens are working on the details.

It is reported that Sellers Hosiery Mills, Burlington, N. C., will expand their floor space by the construction of an addition

It is reported that Josephine Mills, Inc., Marion, N. C., have installed 10 new S & W wrap machines.

Stockholders of Musgrove Knitting Company, Pittsfield, Mass., have voted to liquidate the company.



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First Retail Offering Nylon Hosiery Made

The first national consumer offering of nylon full-fashioned hosiery for women took place on May 15 but it covered only what may be called sample quantities which were quickly snapped up. To get ready for this event retailers and manufacturers earlier held an important meeting to make arrangements which most of the retailers considered the most important event in the hosiery trade in years. Earl Constantine, president of the National Association of Hosiery Manufacturers, was one of the speakers and declared the highest estimate of the amount of nylon stockings to be sold on May 15 was about 100,000 dozen pairs or considerably less than one day's consumption of fashioned silk stockings. From present appearances he said it would seem safe to say that of the total of silk and nylon women's stockings sold in 1940, about 95 per cent will be silk and 5 per cent nylon.

For the year June 1940 to June 1941 these ratios will be approximately 90 per cent silk to 10 per cent nylon with the same ratios probably good for the calendar year 1941, Mr. Constantine said. Warren A. Beh of the nylon division of the Du Pont company stressed the contention that their company had not been responsible for the exaggerated consumer publicity nylon hosiery has received.

The next marketing day for nylon stockings by some branded hosiery manufacturers will be June 1 followed by June 15 indicating that there will be no continuity to shipments of branded nylon stockings for some time to come. The early small amount of the yarn available to the mills has resulted in many branded manufacturers promoting only one or two of the three nylon price brackets. Principle emphasis was on $1.35 and $1.25 numbers with relatively little attention given to the $1.15 bracket.

Calling attention to the use of the word "thread" in association with silk, the National Association of Hosiery Manufacturers emphasizes that it is not applicable to the nylon yarn or other synthetics. A thread, it says, is a unit or a part of a final yarn. Each unit or thread each composed of a separate bundle of filaments may be untwisted from the final yarn. For example, a 3-thread silk yarn is composed of three separate threads or units which may be separated from the yarn into three separate ends. In the case of rayon or synthetic yarns used for hosiery the same does not apply as these yarns are spun by twisting a selected number of filaments to produce a bundle of filaments for the final yarn. Nylon as used in hosiery today, it continued, is either 30 or 40 denier and they compare respectively with the two and three-thread 13-15 denier silk in the gum. The Association statement concludes that it is exepcted in time nylon yarn will be offered in a larger number of deniers and it has been suggested that nylon yarns be referred to as nylon 30s, nylon 40s, etc., to indicate the yarn weight.

Production of Knit Fabric Gloves Increases

Progress in the development in the knit fabric glove industry in this country is shown in the monthly reports of the Government on production and shipments. The industry has been offered a better opportunity on account of the changed conditions in foreign industries due to the war, notably in Czechoslovakia, which used to supply much of the market here. The March report shows twenty-eight manufacturers here furnishing statistics on these gloves which are of the dress variety. The production that month amounted to 316,000 dozens which is a gain over the 296,000 dozens of last year and also over the 224,000 dozens of the same month in 1938. The gloves are of cotton or rayon construction with the rayon making up the larger proportion by far. The mere fact that foreign competition has been cut off, at least temporarily, does not mean that the domestic industry is in a particularly favored position or that it does not have to face the difficulties of all industry. Costs are inclining upward as with industry as a whole and at the same time prices must be maintained near the level that retailers have been used to. The industry necessarily comes under the operation of the wage act and has therefore to prepare for a steadily advancing minimum wage as well as the possibility that competition may tend to increase.

More Interest Shown In Women's Cotton Hose

Increasing buyer interest as well as real business in new numbers of cotton hosiery developed by the industry has been evident recently. The new styles are in both full-fashioned and seamless constructions. The work that the Department of Agriculture has been doing in developing styles for women's full-fashioned stockings in cotton and so that they would fit in with the modern demand of wearers is regarded as noteworthy. One of these known as style 106 made of fine count mercerized yarn is especially attractive. It retails easily at $1.00 a pair and one of the largest manufacturers of women's silk full-fashioned has put it in its regular spring line. In men's and misses' numbers as well as children's there has also been more than the average number of new styles of cotton yarn put out in recent months.

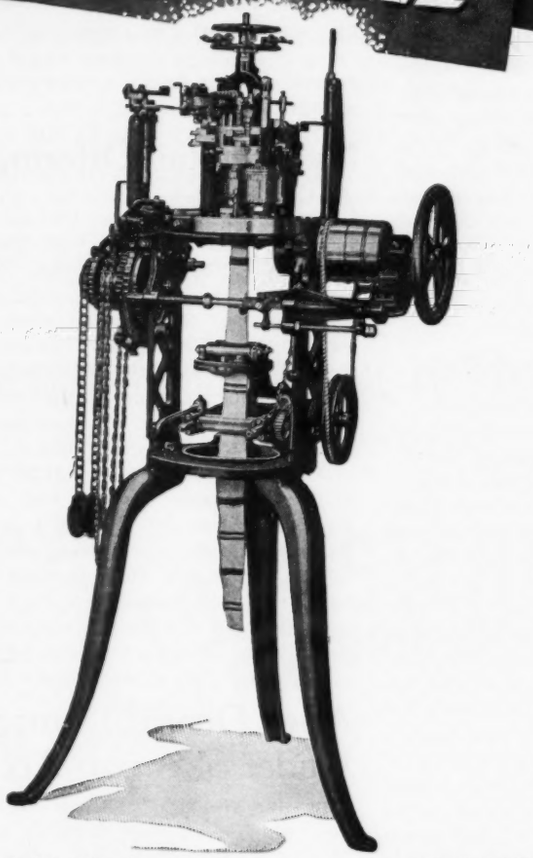
In these also the mercerized or combed cotton yarns have been found to be very satisfactory. In misses' and children's numbers the terry anklets have been on the market for some months and retailers report them as one of the most active numbers on their shelves. Some thought that these terry anklets would prove to be too warm for hot weather but this is not believed to be the case as interest in them now is larger than when they were first introduced. Deliveries have been late with most manufacturers and wholesalers who bought them from the start have had since to withdraw them from sale because of the uncertainty of delivery.

In men's numbers the newer constructions made on link and link machines and of cotton yarns, usually mercerized are another trend toward the larger use of cotton by the hosiery industry. These numbers made in both anklets and half-hose have been ordered freely for fall. In the women's hosiery field in addition to the full-fashioned lisles there are new numbers of fine seamless stockings that are priced to sell through the chains for 25 cents a pair. These are made on fine machines such as 300 needle and of lisle yarn. They have stretch features at the knee that are popular today and also can be dyed in the popular shades of the season.

Carolina Yarn Ass'n Golf Tournament

The annual golf tournament of the Carolina Yarn Association will be held this year October 24-26 at the Carolina Inn, Pinehurst, N. C., as usual, it has been announced by Ray W. Weaver, Greensboro, N. C., president of the Association this year. Mr. Weaver is affiliated with the Textile Machine Works, Reading, Pa. Committees in charge of activities are as follows: Prizes, N. P. Murphy, Joe Foil and C. W. Causey; entertainment, Jim McDowell, Jack Holbrook and Fred Hallenback; golf, Fred Lemmond, S. L. Diggle and Pat Raiford; invitation, Walter Brown, H. B. Summerell and Everett Jordan; skeet, Joe Mason. Others officers of the Association are John Sherrill, Gordon Hope and Joe Mason.

Brinton Ribbers



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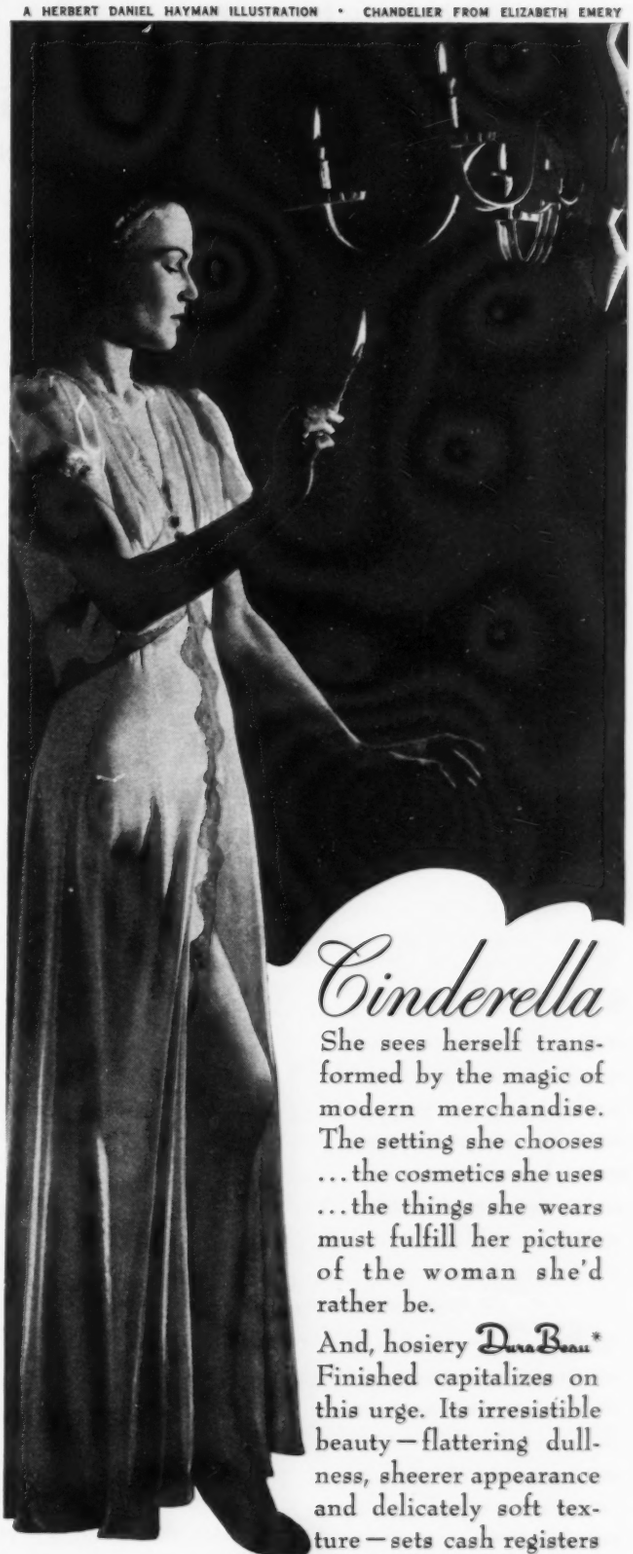

Cinderella

She sees herself transformed by the magic of modern merchandise. The setting she chooses . . . the cosmetics she uses . . . the things she wears must fulfill her picture of the woman she'd rather be.

And, hosiery DuraBeau* Finished capitalizes on this urge. Its irresistible beauty—flattering dullness, sheerer appearance and delicately soft texture—sets cash registers a-ringing . . . and keeps them a-ringing, because DURABEAU Finishing *retains* its beauty for miles more wear, resistant to snags and runs and spots.

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U. S. Hosiery Exports Not Affected by War

Reviewing the first seven months of the European war with its trail of trade restrictions and exchange regulations, the National Association of Hosiery Manufacturers points out that neither the total amount of hosiery exports nor the number of countries to which American-made hosiery is being exported, has suffered. The Association makes the comment that there is no doubt but that this existing demand can be cultivated and expanded. Cuba, Mexico, Panama, Venezuela, and British Malaya take now considerably more full-fashioned hosiery now than a year ago. Norway, Sweden, Bermuda, Canada, Costa Rica, Haiti, the Netherlands Indies, Newfoundland, Labrador, Panama, Salvador, Bolivia, Ecuador, Peru, Venezuela and the Union of South Africa bought more American seamless hosiery during the first two months of 1940 than during the same period the year previous. While the high tide of export was in 1929 when the total reached $20,000,000, last year's total of $4,500,000 was more than double the low point of 1934. Recent months have witnessed several fundamental changes and new developments in foreign markets some of which have been favorable to American exporters. Costa Rica has placed certain types of hosiery by presidential decree on the list of important necessities so that foreign exchange was made available for hosiery.

Hosiery Imports Double Last Year

Imports of hosiery for the first quarter of the year were more than double a year ago with the largest gain represented by cheap cotton numbers entered as of Chinese origin. The total for the three months this year was 562,696 dozens compared with 277,860 dozens last year. Of the total this year 282,502 dozens came from China compared with only 48,419 dozens a year ago from the same source. For the same periods imports of cotton hosiery from Japan were 220,577 dozens this year compared with 181,647 dozens a year ago. In the hosiery market itself there has been an impression for some time that entries from China represented actually merchandise of Japanese manufacture perhaps made in Chinese hosiery mills taken over by Japan during the war. Imports of wool hosiery largely from the United Kingdom amounted to 50,291 dozens comparing with 26,479 dozens for the same period last year. In the imports of the latter type hosiery from the United Kingdom it is felt the working of the new reciprocal treaty appears to be disclosed.

Deal Knitting Mills, Inc. Files Chapter XI Petition

Deal Knitting Mills, Inc., Philadelphia, on May 7 filed a Chapter XI Petition in the United States District Court offering general unsecured creditors whose claims are over $2,000 judgment notes payable in one year. Claims for less than $2,000 are to receive notes for payment in full. Unsecured claims amount to $182,683 out of total liabilities of $209,316. Assets were listed at $96,403. Referee Howard B. Lewis was assigned by the court to supervise future proceedings in the case. Judge Harry Kalodner issued an order restraining a constable sale set for May 9 of the assets on a distraint by Wildman Manufacturing Co., land lord, on a rent claim of $21,345.

In the May "Textile Research"

The results of an investigation of "Pectic Substance in Cotton and Its Relation to the Properties of the Fiber," conducted by the Textile Foundation at the Bureau of Standards under the direction of Dr. Milton Harris, tend to disprove the concept of Dr. W. K. Farr *et al*, that the pectic substance is a material covering the cellulose particles, the cellulose fibrils, as well as the fiber itself. This report as published in the may issue of *Textile Research*, describes and gives credit for the results obtained to a new method for accurately evaluating the role of the pectic substance. It was found that no pectin-cellulose complex exists in cotton fibers and that the pectin substance is present as an insoluble salt, but is rendered soluble by alkali treatment. Cotton freed of pectic substance with alkali showed no change in tensile strength or in viscosity, but acid treatment, which removed but little pectic substance, produced an appreciable lowering of these two properties. It is also concluded that the pectic substance does not contribute to the viscosity of cuprammonium dispersions of cotton. The next report of this series will deal with "Microscopic Examination of Cotton Fibers in Cuprammonium Hydroxide Solutions."

The first progress report of an investigation on the "Stress-Strain Properties of Viscose Rayon," conducted by H. R. Bellinson at M. I. T. under the direction of Prof. E. R. Schwarz, was published in the May issue of *Textile Research*. This report discusses "Effect of Specimen Length." It is found that increase in length of specimen results in a decrease in the breaking strength, the magnitude of which decreases is in good agreement with Pierce's theory of the Weakest Link. Increase in specimen length also produces an apparent decrease in the per cent breaking stretch.

Oscar Nebel Co. Plan Confirmed

A final decree confirming the Chapter X plan for reorganization of Oscar Nebel Co., hosiery manufacturers of Hatboro, Pa., and Winchester, Staunton and Verona, Va., was signed by Judge William H. Kirkpatrick of the Federal District Court in Philadelphia, on April 24.

Nylon Retail Offering A Success

When nylon stockings were placed on sale over the country's retail counters May 15 an unexpected event was the cutting of the expected prices by certain New York outlets. There the price for the expected $1.15 number sagged under $1.00 at certain outlets with other gauges off in proportion. In Philadelphia retail prices held at the expected levels of $1.15, $1.25 and $1.35. Consumer demand was very good but it was not so excited as the initial retail offering of these lines last fall in Wilmington, Del., where it was impossible to get near counters the first day. In Philadelphia they were crowded but retailers had some left for selling May 17 in broken sizes.

Apex Denied Damages Under Sherman Act

In the case of the Apex Hosiery Co., which has been pending since 1937, the Supreme Court ruled on May 27 that labor unions are subject to anti-trust prosecution, but on separate grounds held that the Apex Hosiery Company of Philadelphia is not entitled to damages under the Sherman Act for destruction done during the 1937 sit-down strike.

The court was divided six to three with Chief Justice Charles Evans Hughes dissenting, supported by Justices James C. McReynolds and Owen J. Roberts.

Apex sued the union under the triple-damage provisions of the Sherman act after a 7-week sit-down, during which the company's office and machinery were damaged.

The ruling on applicability of the Sherman act to labor organizations reasserted the position taken by the court in a long list of precedents.

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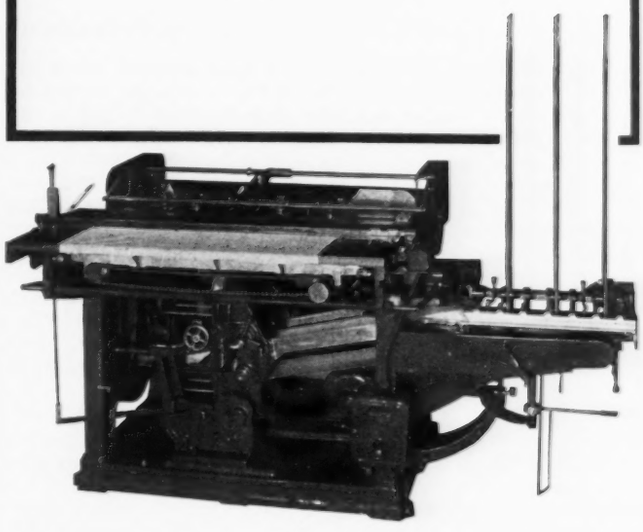

THE new 46" Foldrite Folder is designed especially for folding large terry and turkish towels. One of its users is regularly folding 1500 DOZEN pieces in a single 8-hour day. It handles up to 46" x 22¾" towels and folds them to a minimum 12½" x 6" size.

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The Foldrite is also available in a 36" unit for dish towels, diapers, huck towels, etc.

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TRENDS—YARN MARKETS

Spread of War Brings Immediate Hardening In Wool And Silk But Cotton Eased—Rayon Yarns Active With Position Strengthened—Manufacturers Reluctant To Change Cautious Policies—Mercerized Counts Less Active

Philadelphia, May 16, 1940

THE FULL EFFECT of the development of intense warfare abroad has not been apparent at this time, the initial shock being to retard interest by manufacturers and in cotton yarns to bring about even lower prices while wool and silk hardened. The long time effect is bound to bring about higher prices and larger inventories if the war lasts for a reasonable time but as yet manufacturers are not ready to act upon this. They are looking at the poor spring season that most textile manufacturers experienced and some inventories evidently will first have to be liquidated in the primary markets. Cotton yarns have been selling at cost or less and spinners are in serious need of new business. Worsted spinners also complain of the loss selling that has been necessary to get a small amount of new business while in silk curtailment among knitters has retarded demand for the raw fiber. Rayon has been in the best position of the four fibers with demand good.

Cotton Yarns

The downward trend in cotton yarn prices that has been apparent for several months has continued during recent weeks with reductions of from one to two cents a pound. As is usual when prices are dropping manufacturers have been refusing to place new business and sellers report that the last month so far as new business is concerned has been the least active of the year. Sales yarn spinners have reached the point where they will have to curtail sharply even though they began to do so last month, unless they want to see their spinning margins reduced further. Margins for spinners at present are non-existent, spinners say, with even the most efficient plants claiming that they are unable to break even at current selling prices. The latter are now not far from the low points of last year when raw cotton was 2 cents a pound lower than it has been averaging during the last few weeks.

Recent quotations have also failed to take into consideration that sales yarn spinners last October in many instances had to put into effect wage increases under the Federal Wage and Hour Law which for some mills meant increases of one-half cent per pound and more. Since last October a large number of spinners have installed new machinery and equipment which has decreased costs of spinning and some mills now admit that they have practically offset the wage increase through installation of more efficient equipment. But even if this is so the small margins on which spinners are working is shown by the reaching of 1939 lows in certain counts in early May even though raw cotton is considerably higher. Shipments on old contracts during the first three months of this year were at a good rate and considerably ahead of the same period a year ago but during April and the first half of May this condition changed and recent shipment rates have barely equalled the same period in 1939.

Mercerized yarn prices have been reduced another 2 cents a pound, the new list becoming effective late in April which placed 60s two-ply ungassed at 65 cents compared with 67 cents in the previous list. There have been several reductions in mercerized yarn prices this year, taking this size from the peak reached last December of 74 cents compared with 65 cents current or even lower, according to Pennsylvania underwear manufacturers, who claim that 63 cent prices have been quoted to them recently. New business and shipments on old contracts have been diminishing and during the first two weeks of May reached the lowest level of the year. Lower prices for silk up until the time the war in Europe broadened resulted in a much smaller demand for mercerized yarns for making full-fashioned welts and processors report that anklet manufacturers, finishing the bulk of orders for spring and summer, have been taking smaller deliveries of this type yarn.

Silk

Prices of raw silk up until the time of the development of active warfare in Europe showed a steady tone with fluctuations confined to very narrow limits but upon the broadening of the war considerable strength developed. Although there has been a larger volume of business placed by the weaving trades interest from hosiery manufacturers has been quiet because most manufacturers are operating on greatly curtailed schedules. Early in May mills in the Philadelphia area were operating at an average of 40 per cent which was slightly under the rate of operation a month previous with little new business coming in manufacturers have not been in the mood to place large orders for raw silk. Mill takings of raw silk in the United States during April totalled 21,740 bales which was higher than trade expectations.

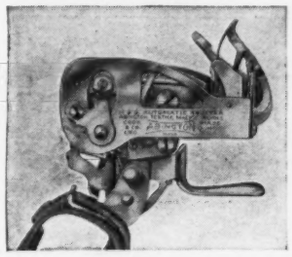
Consumption in March amounted to 21,685 bales and in April, 1939, to 27,802 bales. Arrivals of raw silk into the United States continued light during the month of April, amounting to only 18,551 bales while March arrivals totalled 17,266 bales. The increase although small was made principally by the larger Italian arrivals during the month. The latter arrivals amounting to 3,940 bales during April. This was the largest monthly total since June 1933 when 4,171 bales were brought into the United States. Indications are total world stocks of Japanese silk on June 30 will be about the same as a year previous and at that time comment was that supplies were on the short side rather than indicating any excess either in port stocks, New York, in transit, or in the interior of Japan.

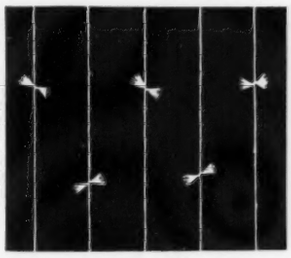
Rayon

Increased demand for rayon yarn is reported by leading producers although knitting yarns have not been as active as weaving for May delivery. Selling has been so active with demand being centered in the finer deniers so that there is talk that by June deliveries will have become tighter again. Trade estimates of April rayon yarn shipments put these slightly ahead of March shipments. Some of the largest producers stated that shipments had shown an increase during the month but several of the smaller producers reported slightly larger inventories at the end of April. Production of rayon filament yarn by American producers during the first three months totalled 94,700,000 pounds, a new quarterly high record. Output of rayon staple fiber at 20,500,000 pounds, also established a new quarterly production record. That heavy domestic mill takings are absorbing the increased production is indicated by the fact that consumption during the first four months of the current year amounted to 121,000,000 pounds which is an increase of 17 per cent over the same period in 1939.

Worsted Yarns

Shipments of worsted knitting yarns so far this year have been averaging 18 per cent under the same period a year ago. Due to the demands of retailers for sweaters, bathing suits, hosiery and other articles made of wool for price tags the same as a year ago considerable substitution has occurred in the types of yarn used. Instead of using all-worsted a majority of outerwear manufacturers are using such yarns as cotton cores, coated with wool or rayon, cotton and worsted twists or spun rayon. This permits them to produce a garment that can be profitably retailed at the same level as a year ago with the increase in wool prices over this time offset by smaller consumption of the straight worsted yarn. Although wools have strengthened since the extension of the war in Europe, worsted yarn prices during most of the present month showed little change and demand from manufacturers was quiet.





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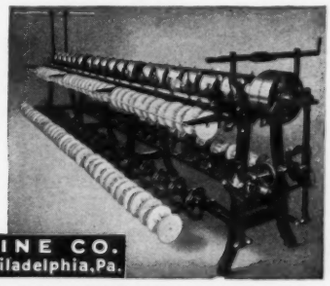

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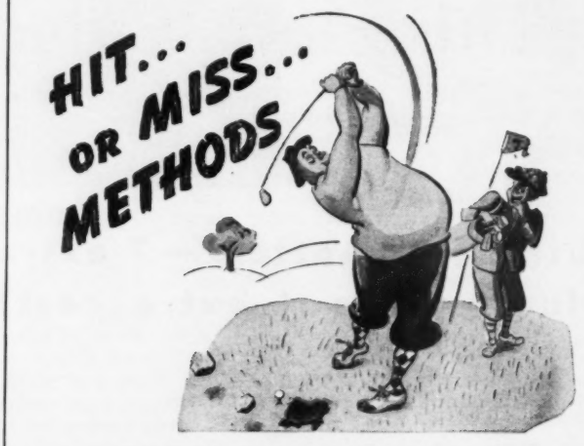

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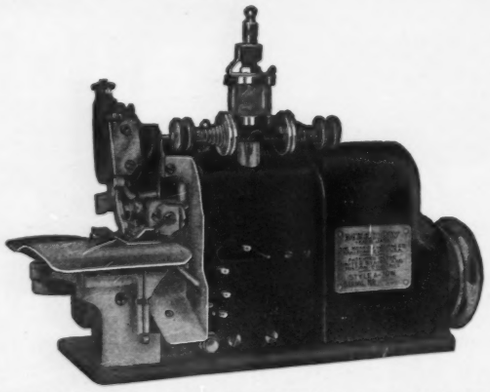

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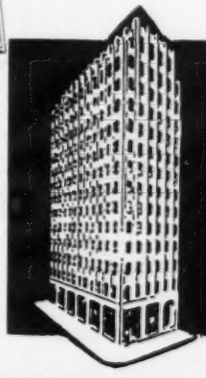

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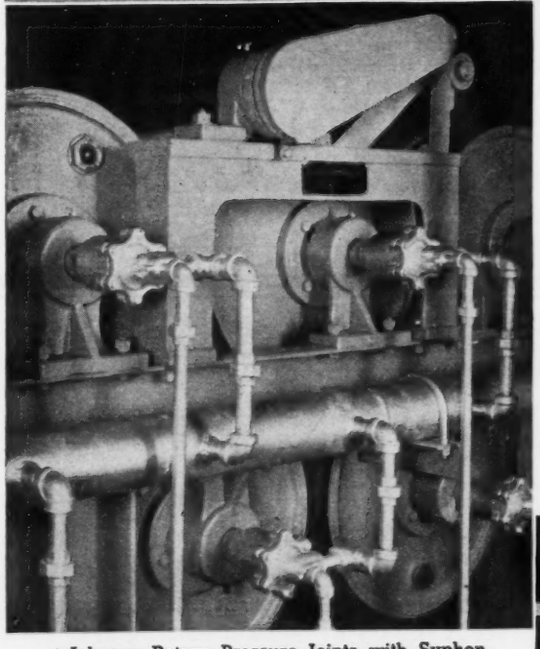

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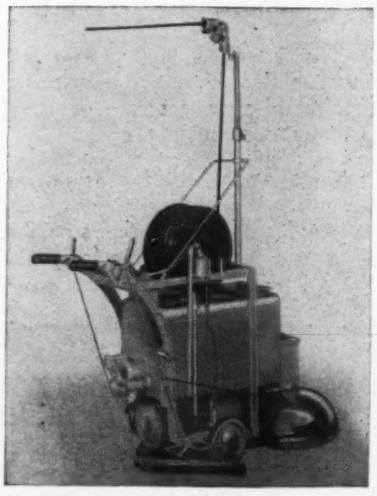

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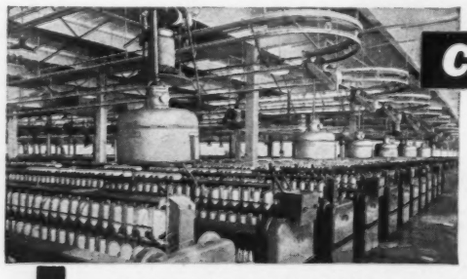

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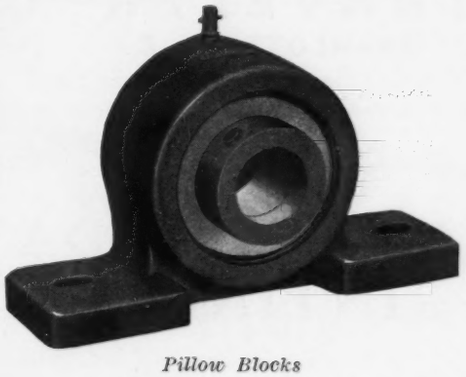

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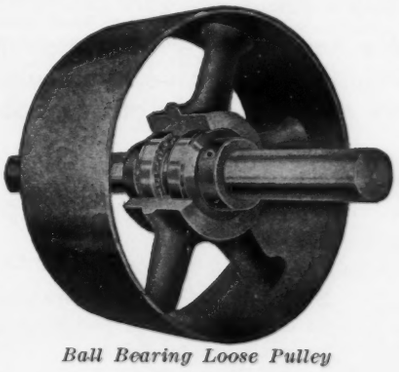

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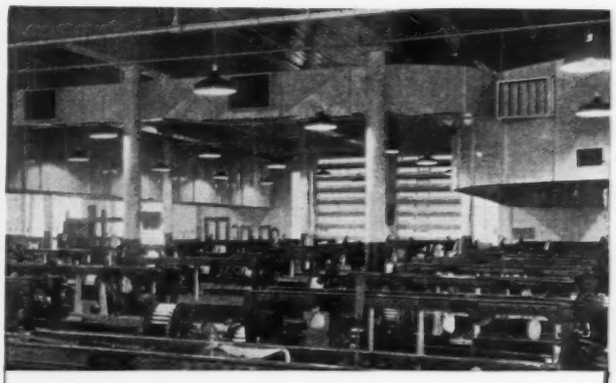

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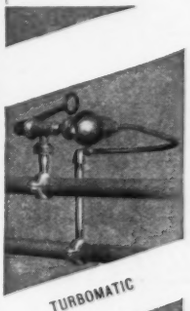

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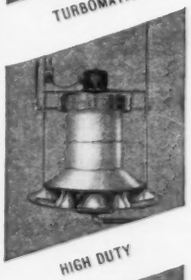

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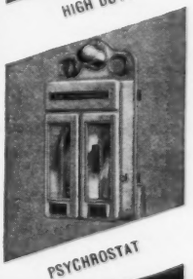

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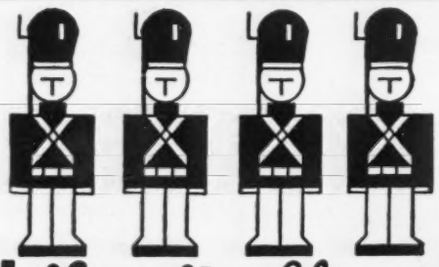

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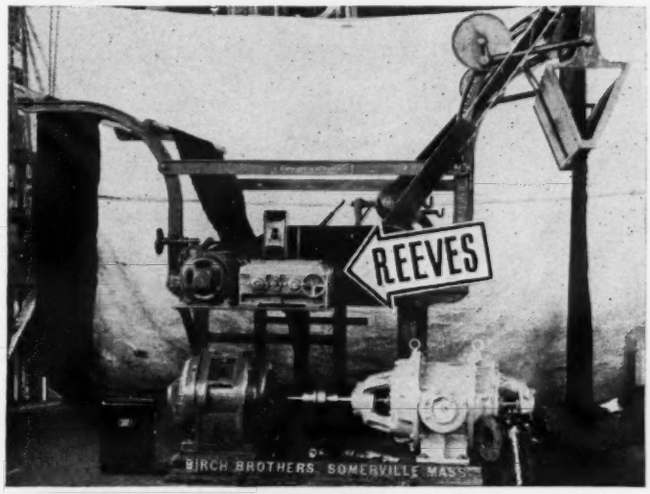

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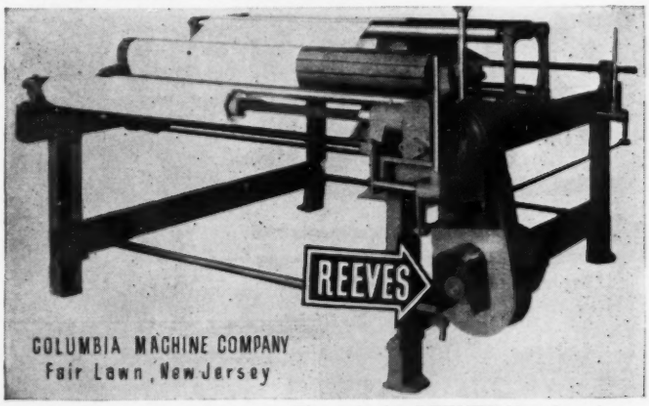

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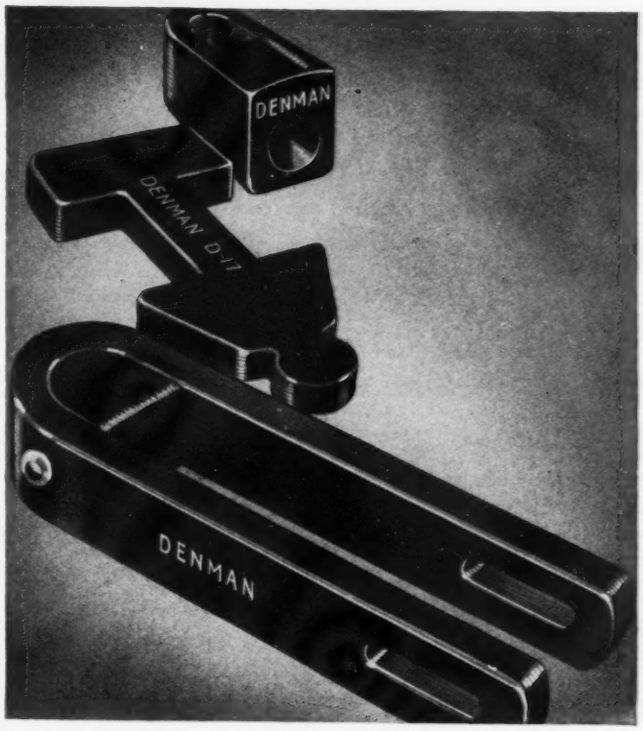

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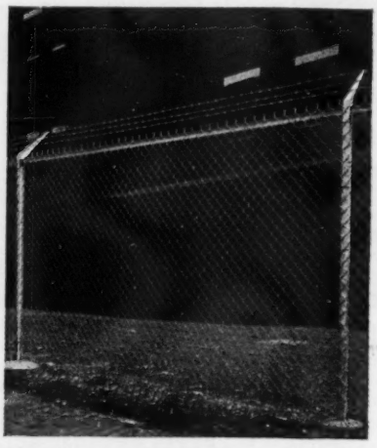

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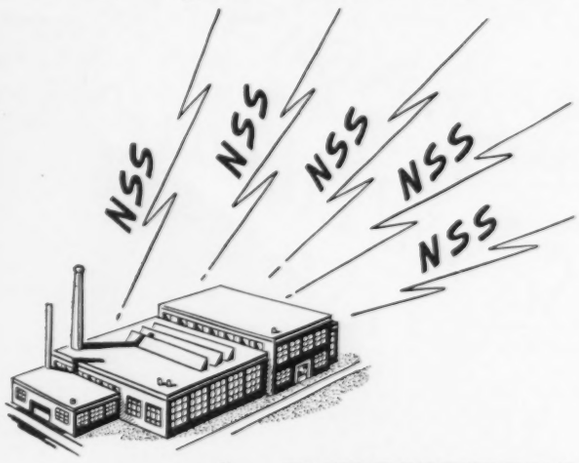

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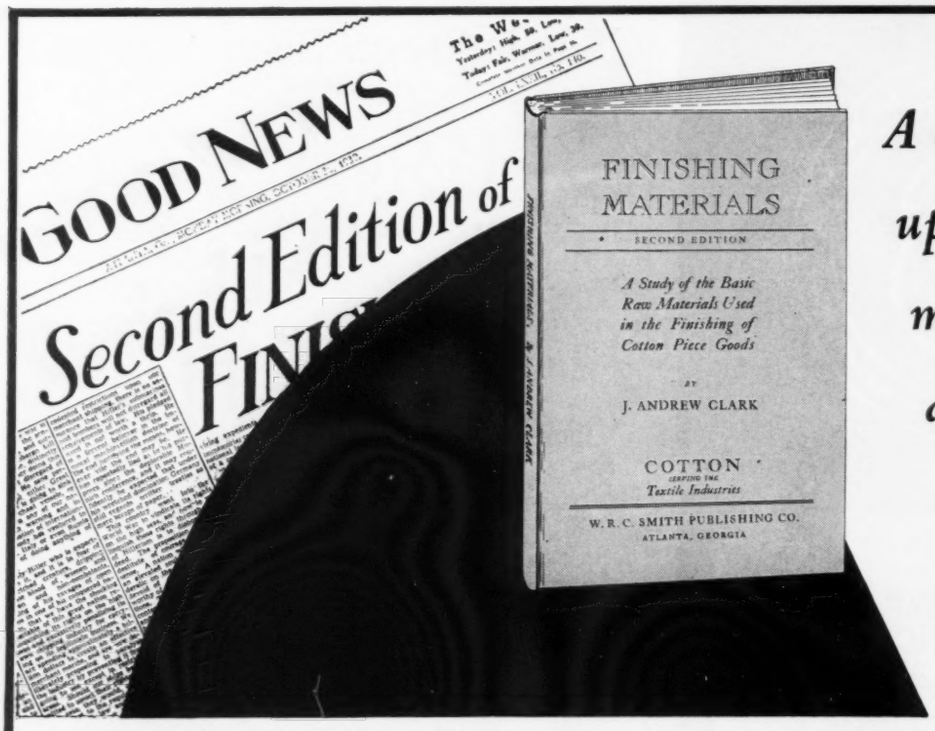

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Water as a Finishing Material
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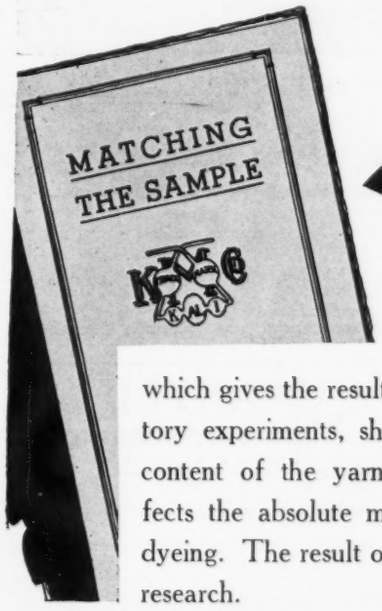

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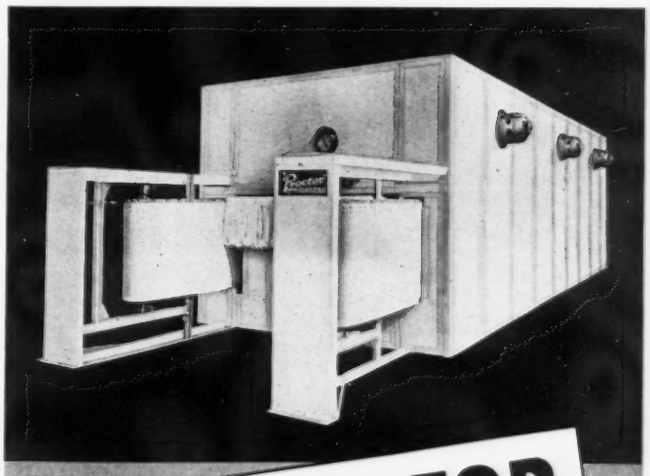

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1 Loom Fixer for Draper and dobby box looms.
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1 Mill Cost Accountant.

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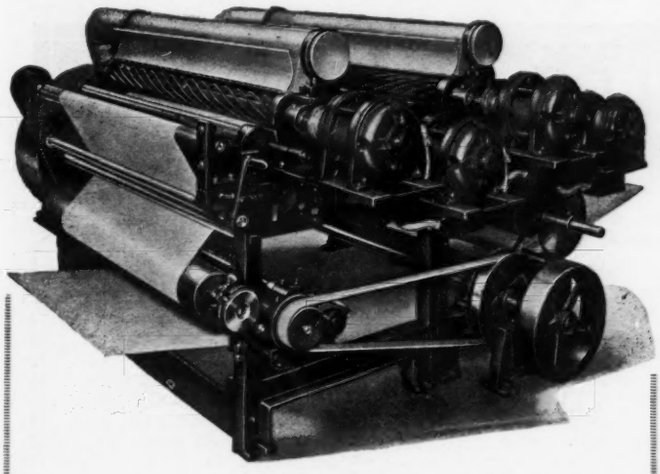

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THE ELEXTOP ARRESTS
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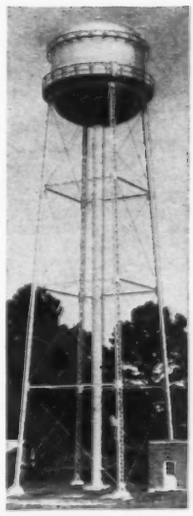

R. D. COLE MANUFACTURING CO.
ESTABLISHED 1854
NEWNAN GEORGIA

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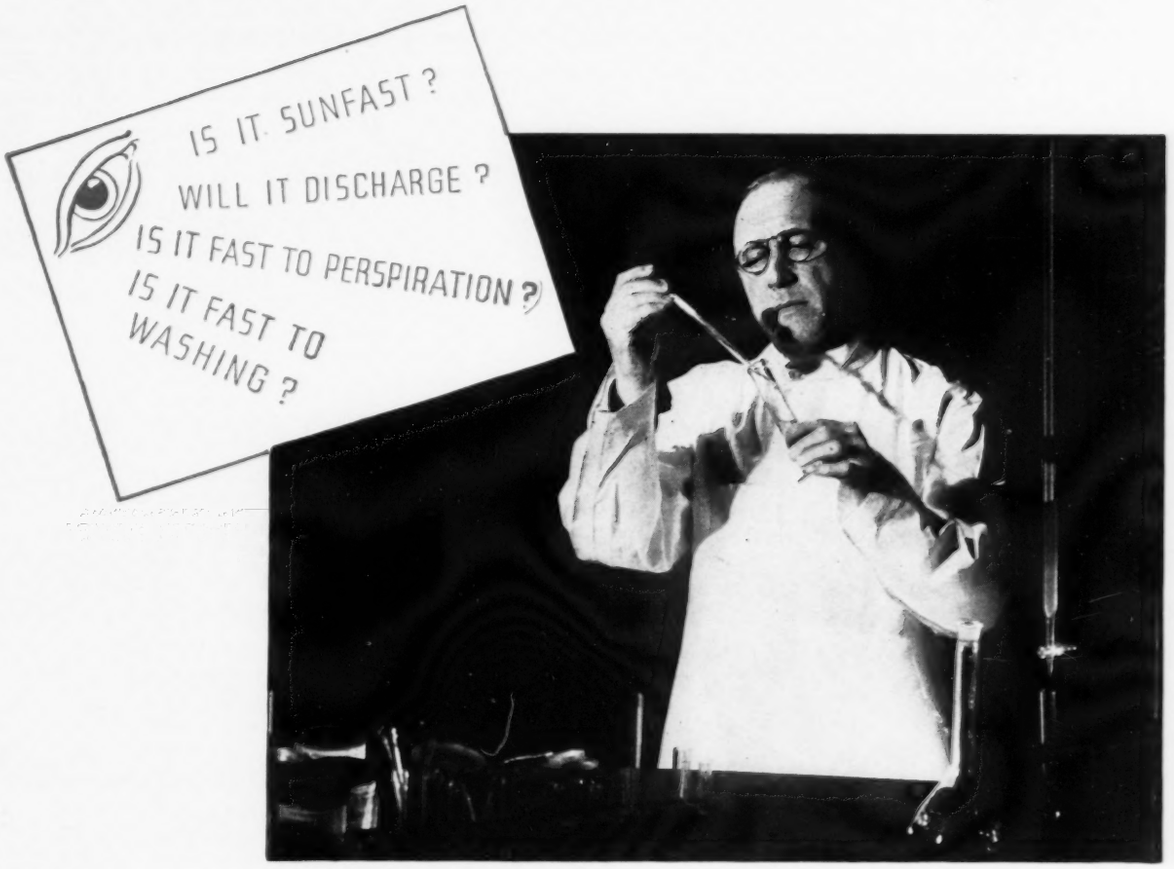
THERE'S MORE TO A DYE
Than Meets the Eye . . .



The eye can appreciate beauty of color—its shade, current smartness and depth—but it cannot by mere observation determine its fastness properties and dyeing characteristics.

For this reason, A.A.P. maintains a staff of trained laboratory technicians at each of its local branches. These men are constantly investigating the unseen properties of each of AMERICAN ANILINE'S many dyestuffs . . . thus affording you an authentic source of information regarding the fastness and workability of all A.A.P. dyes.

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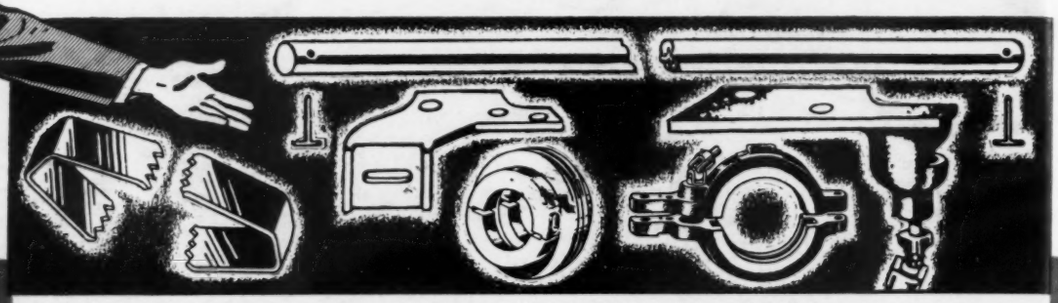
PLANT: LOCK HAVEN, PA.

YOU GET THE TOPS in Pick Counters

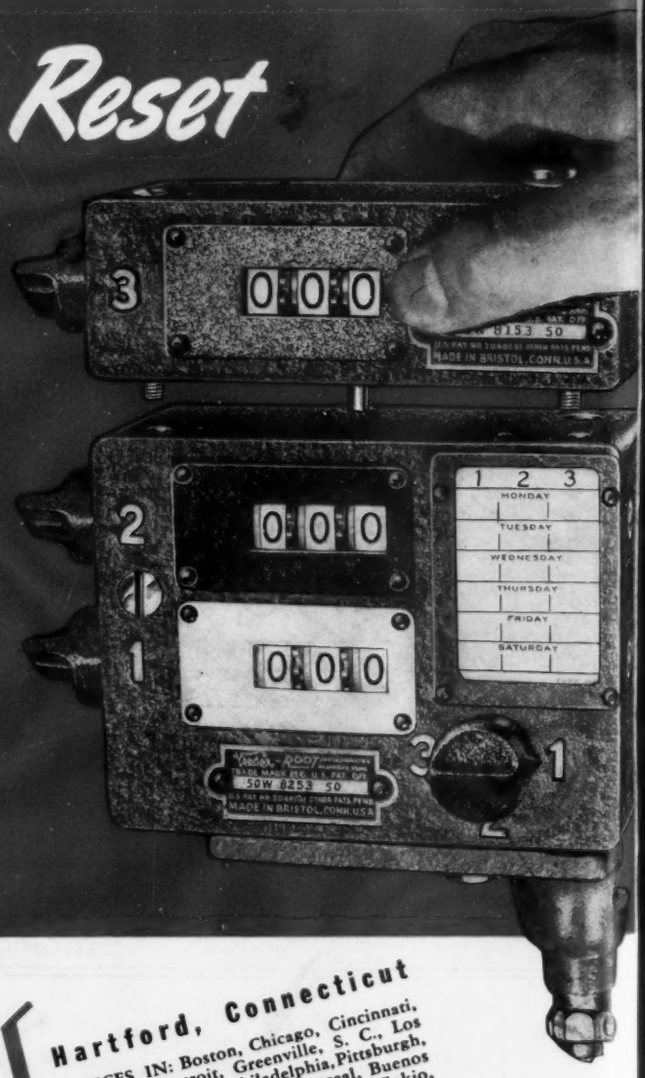
PLUS ALL THESE ACCESSORIES



Compression clamps (cut installation costs). Drive rod (drilled, cut to length, enamelled). Pins to fasten drive rod into universal joints. Counter brackets. Loom brackets. Worm gear and housing. Plus all bolts, nuts, seals, etc., that are necessary to complete the installation.

WHEN YOU BUY

Veeder-Root's 2-3 Reset



The Veeder-Root 2-3 is the most accurate, longest-lived mechanism ever designed for counting loom-picks. And its accuracy is *assured*, because it's *vibration-free*.

This counter comes to you as a complete installation . . . including everything shown above . . . ready to assemble on the loom. You don't have to buy or make any extras, and you don't have to drill any parts. So installation is quick, easy, inexpensive.

And from then on, you always have at your call the expert advisory service of experienced Veeder-Root Field Engineers. They're interested in helping you get the utmost out of your pick counter equipment . . . and what's more, they know how to do it. *You get these plus values only with Veeder-Root 2-3 Pick Counters*. So why not call our nearest office today? (You'll find it in the list at the right.)

APR 20 1941

Veeder-Root Inc.

Hartford, Connecticut

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THE ONLY COMPLETE PICK COUNTER INSTALLATION . . . 2-3 RESE